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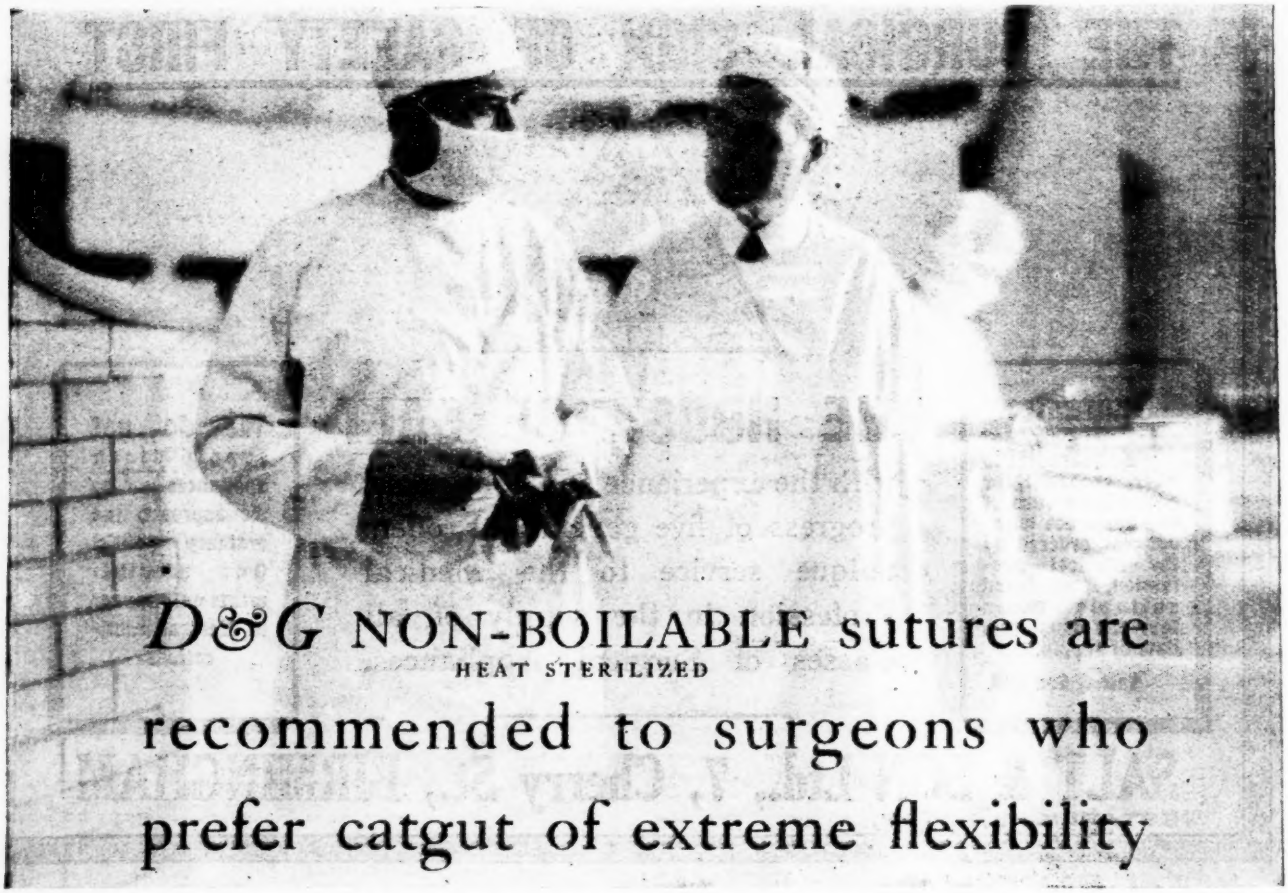

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A Lecture
ON
THREE CASES OF SPONTANEOUS SUBARACHNOID HAEMORRHAGE:
WITH ESPECIAL REFERENCE TO THE OCCURRENCE OF MASSIVE ALBUMINURIA AND KORSAKOW'S SYNDROME.*

BY
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(*With Special Plate.*)

DURING recent years the subject of spontaneous subarachnoid haemorrhage has received increasing attention. Lumbar puncture has shown that this may occur without being necessarily fatal, and that its occurrence is indicated by a symptom-complex which in itself may be diagnostic. With this knowledge fresh cases are being more frequently recorded.

In each of the three following cases the diagnosis was made, not only by the characteristic mode of onset, but also by finding blood diffused through the cerebro-spinal fluid. Two were fatal. In one of these the diagnosis was confirmed at post-mortem examination, in the other a necropsy could not be obtained.

CASE I.

On the evening of November 10th, 1926, a young man, aged 26, was admitted to the Montagu Hospital, Mexborough, under the care of Dr. J. A. R. Lee, with the following history. He was returning home from his work as a bank clerk, and whilst walking along the street is said to have stepped off the footpath to allow someone to pass. In so doing he slipped and fell. It is also said that he had his hands in his pockets at the time and that he fell heavily head forwards. He did not attempt to get up. He was found to be unconscious, and was at once removed to hospital.

On admission he was completely unconscious: the limbs were in a condition of extreme rigidity. The arms were flexed across the chest so tightly that his clothes had to be cut off—the right arm being more rigid than the left. The legs were extended. The pupils were contracted. There was thought to be a slight facial paralysis, but this was uncertain. He remained in the same condition during the night.

The next morning his temperature was slightly raised (above 100° F.). There was some vomiting, and occasional twitching of the face. At 9 a.m. he was more conscious, looked about, but did not respond to questions. He is said to have spoken once. A sample of urine drawn off was found to contain a good deal of albumin.

When I saw him in consultation, about 10 p.m. of November 11th, the condition was as follows. He lay quietly on his back. The eyes were open and he looked about with a vacant confused expression. He did not show any response to questions or orders. The pupils were equal, of medium size, and reacted to light. There was occasional fibrillary contraction in the muscles of the left side of the face. The arms were flexed across the front of the chest, and any attempt at extension was strongly resisted. This was more marked on the right than on the left. No reflexes could be obtained in the arms. The abdominal reflexes were absent. The legs were rigidly extended—the right more than the left. The knee-jerks were brisk, also the ankle-jerks.

The plantar reflexes were markedly and briskly flexor on stimulation of the inner sole, and as markedly and briskly extensor when the outer margin was stimulated. In the right foot this persisted on repeated trials; in the left foot toe extension disappeared after a few repetitions. On simultaneous stimulation of the inner and outer parts of the sole the big toe remained motionless; the remaining toes were flexed.

The systolic blood pressure was 120, pulse 104. There was incontinence of urine. A catheter specimen showed a very heavy cloud of albumin. Except for a slight abrasion on the forehead, there was no evidence of any injury to the head. Lumbar puncture showed greatly increased pressure. The fluid was deeply blood-stained throughout. Unfortunately the specimen of cerebro-spinal fluid came to grief in transit to the laboratory, and therefore we have no detailed report on it.

On November 13th the temperature rose to 101° F. and remained there. The rigidity persisted. On November 15th the report was: "He answers 'Yes' and 'No' sometimes when questioned, but I think he does not understand the questions. He is taking a fair amount of milk and water. The urine yesterday contained less albumin and to-day only a faint trace."

He remained in much the same condition until death on November 18th, just a week after the attack.

A necropsy was made on November 19th by Drs. J. A. R. and R. T. Lee, who report as follows:

"We examined the skull very carefully and could not find any fracture. The whole surface of the brain was congested evenly, not in patches. There was some dark blood at the base of the skull in the region of the pons. It was clotted, and seemed recent. Nothing was found abnormal in any other organ."

A careful examination of the brain by Professor Douglas failed to show any aneurysm. His report is as follows:

"Generalized congestion of the pia mater, chiefly on the vertex. On the whole, the congestion is more marked over the surface of the left hemisphere than the right. It is more intense in the region of the left motor area, comparatively slight over the right. On the mesial surfaces the vessels are engorged rather more on the right side than on the left. The appearance is suggestive of acute changes in the meninges over the left frontal lobe. Similar changes are seen in the interpeduncular space and on the anterior part of the pons. Considerable discoloration at the basal surface of the frontal lobes on both sides, more marked on the right, where there is definite haemorrhage under the surface of the pia mater. No recent bleeding was seen in any of these parts. On cutting through the cerebellum a recent clot of blood about the size of a pea, and sharply defined, was found in the region of the inferior vermis, apparently just above the fourth ventricle in the middle line. It was semiliquid, and did not appear to be intimately mixed with tissue substance."

Portions of the brain from various parts were examined microscopically by Miss E. C. Eaves, M.D., who reports as follows:

Pathological Changes.

The vessels in the meninges were congested, and haemorrhages had occurred in different regions, most marked in the frontal lobe. In some areas the clot had become partly organized, but elsewhere the haemorrhage was apparently very recent, and extended a little way into the substance of the brain. Multiple small haemorrhages were present in the brain substance or around small or medium-sized vessels. The possibility has to be considered that the blood had tracked down the adventitial sheath of the vessel from the meninges. There were, however, situations in which a leakage of blood from the vessel could be observed. Haemorrhages were present in the corpus striatum and optic thalamus, as well as in the frontal lobe.

The changes in the tissue may be described as: (*a*) secondary to the haemorrhage; (*b*) primary changes.

(*a*) *Secondary.*—Some parts of the cortex appeared softer than normal. Microscopically there were numerous cells of the mesoglia type, and in some places there were groups of Körnchenzellen. The function of the latter is probably to aid in the removal of the debris of the softened nervous system. Friedmann,[1] in his experimental studies on the nervous system, has shown that these cells may appear in two or three days. The nerve cells exhibited a considerable degree of chromatolysis.

(*b*) *Primary Changes.*—The vessels of the meninges were thickened and stained in an abnormal manner with methylene blue (Fig. 3), as did some of the vessels in the nervous system. It was considered worth while to make an analysis of the cerebral cortex to ascertain if an unusual amount of calcification had occurred. The calcium amounted to 19.8 mg. per 100 grams of cerebral cortex, an amount about five times in excess of that found normally at the age of this patient,[2] and four times that found in old age accompanied by arterio-sclerosis. In some parts of the frontal cortex the vessels, and particularly the capillaries, seemed unusually numerous, even allowing for the fact that the congested and dilated condition would make them appear so. (Fig. 1.) This increased number of vessels was, however, limited to certain areas, and here the vessel walls were markedly different from the normal. There was proliferation both of the tunica intima and adventitia, and plasma cells were present. (Fig. 2.) There were many cells of mesoglia type in apposition to or near the vessel wall. Some of the blood vessels, and especially the very dilated ones, exhibited a thinning of the wall at intervals, although the vessel wall was elsewhere thickened. There was a slight increase of neuroglial cells.

The pathological findings are similar to those of a syphilitic arteritis. In this disease intracranial aneurysms may occur even in a young adult, and cause death from haemorrhage (Aldren Turner[3]). The limited area of the increased number of vessels is, however, difficult to explain. Nissl[4] has shown also that plasma cells are not pathognomonic of general paralysis, nor of syphilitic disease of the brain, but that they may be produced by any slight irritation, and are present in many diseases of the brain.

It is necessary to refer also to the experimental work of Friedmann.[1] He found that a destruction of nervous tissue may act as an irritant to the mesodermal tissues. In as little time as five to ten days the vessels of the irritated area increase in number, and are thickened by proliferation of the endothelial wall. The softening of the nervous tissue brought about by the haemorrhage could therefore act as an irritant and bring about a new formation of vessels in a limited area.

The possibility of an angiomatous condition may be considered. Calcification may occur to an unusual degree in this condition, as in two cases described.[2] However, haemorrhage was not a feature in these cases, although the patients, being epileptics, had numerous falls.

*Delivered before the Chesterfield Division of the British Medical Association.

The histological report shows that, although this man was thought to be in sound health prior to his fall, his intracranial arteries were definitely and considerably abnormal. The changes found in them are, in Miss Eaves's opinion, not inconsistent with a syphilitic origin. Unfortunately, owing to the loss of the specimen of cerebro-spinal fluid in transit to the laboratory, the means of confirming this or otherwise is wanting. At any rate, whether syphilitic or not, no aneurysm was found after a careful search of the hardened specimen, and the distribution of the blood did not point to one single focal origin. The presence of so large an amount of calcium in the brain points to changes of rather wide extent and long development.

Relation of Trauma to Haemorrhage.

This raises a point of much practical importance. Had this fall occurred whilst the man was at his work the question of compensation would almost certainly have arisen.

The history is that "he was walking along the road and, the footpath being narrow, he stepped off it to allow a lady to pass; that in so doing he slipped, and fell forward. As he had his hands in his pockets he could not save himself, and fell on to his forehead." There was only a slight abrasion on the forehead, and a careful examination of the skull showed that there had been no fracture or obvious injury to the skull. It is obvious that immediately before he stepped aside there had been no intracranial haemorrhage, for this does not begin without symptoms. On the other hand, immediately after he had fallen he was found to be unconscious and made no attempt to pick himself up, so that within that short time the haemorrhage must have been considerable.

Probably the immediate cause of the haemorrhage was the sudden muscular effort in trying to save himself when he slipped. This would be quite in keeping with the history often recorded in cases of spontaneous subarachnoid haemorrhage, in which the seizure occurs with surprising suddenness whilst lifting something comparatively slight, such as a coal-pan, or, as in a case under my care some years ago, hitting a four at cricket. If that is so, the actual fall would be not merely due to the slip but to the onset of haemorrhage, and with this rapidly extending he quickly became unconscious and rigid.

The second point of interest is that within a few hours of the attack this patient showed transient massive albuminuria. This sign was first recorded by Widal in 1903,[5] and since then has been observed from time to time. It is by no means always present. Symonds[6] points out that, although there is good physiological evidence that this may be due to disturbance of nervous centres concerned with renal secretion, hitherto in such cases the absence of renal disease has never been clearly established on clinical or post-mortem evidence. In this case the clinical evidence is that the albumin practically disappeared in a few days, and at necropsy the kidneys were found to be healthy.

In the second and third cases the point to which I would call attention was the presence of typical Korsakow's syndrome.

CASE II.—*Spontaneous Subarachnoid Haemorrhage in a Healthy Man of 36: Prolonged Pyrexia: Korsakow's Syndrome: Recovery.*

A married man, aged 36, always very strong and active, on January 6th, 1928, in the evening, whilst visiting at a house, felt a sudden intense pain in the back of the neck, much more severe than anything he had ever felt before. With great difficulty he managed to walk home. He vomited several times, but the pain persisted. Next day there was a temperature of 100°, headache, pain in the eyeballs, and stiffness of the neck.

With rest in bed he improved during the next day or two. On January 9th he came downstairs, but still felt pain and stiffness in the neck. The next day he stayed in bed and took a purgative as he had been somewhat constipated. After the bowels had acted he fell asleep and was sleeping quietly at 11.30. About 2 p.m., when food was taken to him, it was found that he could not be roused, and, in fact, was comatose.

I saw him about 3.30 p.m. He was deeply comatose, the respirations were noisy and irregular, of Cheyne-Stokes type. He was pale, slightly cyanosed, the eyes half closed, pupils small, divergent squint. The pulse was soft, small, and showed increased frequency. The legs were flaccid; no knee-jerks could be obtained, and no Kernig's sign. There was slight toe extension on the right foot, no response on the left.

The diagnosis of subarachnoid haemorrhage, due to a leaking aneurysm, was made. Lumbar puncture showed a free flow at rather increased pressure, deeply blood-stained throughout. The Wassermann reaction was negative.

On January 11th he was rather better; he had had a restful night, sleeping most of the time; he would wake up and respond vaguely when spoken to, but was very dull and heavy. The pupils were normal in size, equal, and reacted normally; there was no cranial palsy, and no head retraction. He passed urine voluntarily. Knee-jerks were still absent. Toe flexion on both right and left. The next day his condition was much the same—he was rather more restless. There was slight toe extension on both sides. Lumbar puncture again gave blood-stained fluid at slightly increased pressure.

During the next ten days his condition did not change very much; there was pyrexia every day, with a pulse always about 130. At one period catheterization was necessary, and this was followed by some cystitis, which soon passed off. During all this time the knee-jerks were constantly absent, whilst the plantar response varied. He was chiefly in a lethargic stuporose state, but could be roused, and he recognized those around him in a confused way.

On January 20th there was some ptosis and nystagmus, also slight Kernig's sign. The temperature returned to normal on January 25th; pulse 84, still very lethargic but clearer in between. A faint knee-jerk was obtained in the right leg for the first time on this day.

At the beginning of February he was having restless nights and sleeping all day. When aroused he was in a state of complete euphoria. He would smile, and say he was quite well; he had no idea of time or place; would begin an answer sensibly and at once wander off into confused nonsense. No nystagmus was present, and the fundi were normal. Knee-jerks were present, though very feeble.

He improved gradually, and by February 23rd he was coming downstairs each day. Mentally he presented the features of Korsakow's syndrome. There was smiling euphoria, together with unblushing accounts of what he had done, which were quite imaginary. Thus, in the presence of his wife and doctor, when asked what he did yesterday, he said at once that he had been out walking in the garden, although he had not been out of the house for six weeks. When corrected by his wife, he said, "Oh, didn't I?" and did not seem at all bothered. This mental condition continued for several weeks.

On June 20th, 1928, he was going about as usual, and driving his motor car for long distances (100-mile runs). He was sleeping and eating well. Slight headache and vertigo were present at times. His speech was slow and deliberate, with definite hesitation for words at times. Memory for recent events was not very good. His expression was rather fixed; there was slight tremor of the lids, but no nystagmus; knee-jerks were still only obtained on reinforcement.

At the present time, more than a year after his attack, he has been able to resume his full work, which involves a good deal of public speaking. He finds that for this he is obliged to rely on notes such as he did not require previously.

As regards the possible cause which set the bleeding going in this case it is said that just before going to make the call where it happened the man had been playing very vigorously with his little child—throwing it up in the air and lifting it on to his shoulders, etc. The second haemorrhage was no doubt set going by the effort connected with the act of free purgation. It emphasizes the importance of complete and prolonged rest after even the slightest subarachnoid haemorrhage.

This case appears to have been one of leaking aneurysm in which there was a primary small leak and a secondary larger but not fatal one.

The last of the three cases I have to record proved to be primarily a case of chronic granular nephritis, of which the subarachnoid haemorrhage was only an item. The presence of Korsakow's syndrome showed itself in rather a striking way.

CASE III.

A woman, aged 44, was brought into my ward on a stretcher on August 7th whilst I was going round, and before leaving I looked at her and asked some questions. She was rather confused, but said she had suffered from fits for several years, and that she was quite accustomed to them. I assumed that one had occurred in the street, and that she had been brought in because she was in a state of post-epileptic confusion. The next day when I saw her my house-physician said that lumbar puncture

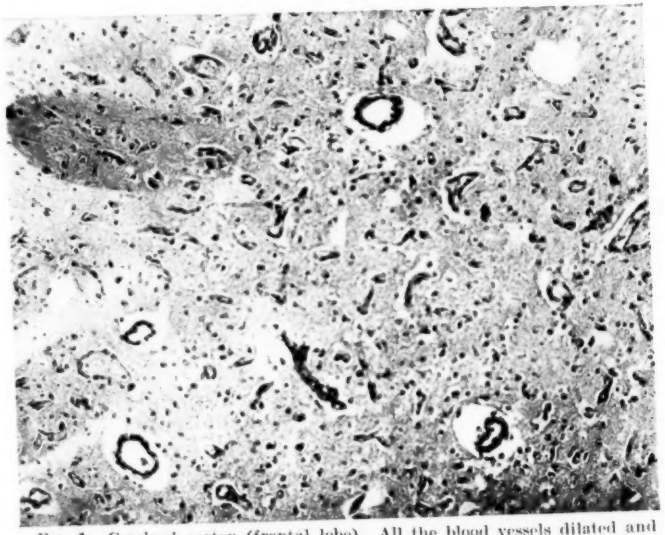

FIG. 1.—Cerebral cortex (frontal lobe). All the blood vessels dilated and more numerous apparently than normal. The spaces round the vessels may be due to faulty fixation. Magnification 60.

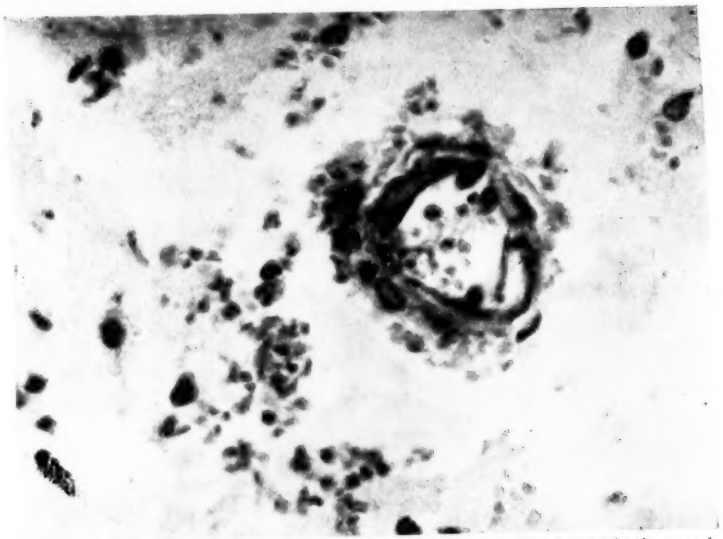

FIG. 2.—Proliferation of endothelial layer of vessel wall. Blood outside the vessel. There are two or three large microglia cells, only the nuclei of these being distinctly stained. Magnification 510.

FIG. 3.—Apparently calcified vessels, near corpus striatum; similar vessels in meninges. Magnification 60.

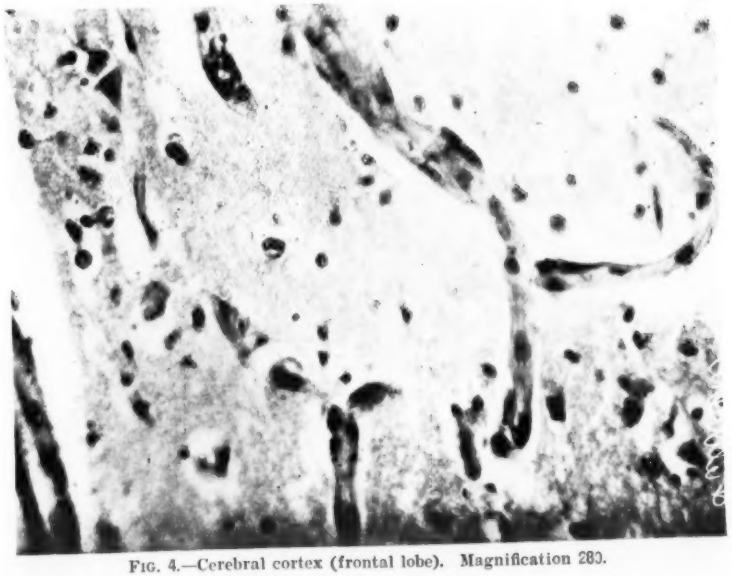

FIG. 4.—Cerebral cortex (frontal lobe). Magnification 280.

From microscopic sections prepared by Miss E. C. Eaves, M.D., Lecturer on Physiology, University of Sheffield.

T. K. MENON AND T. B. MENON: COEXISTENCE OF LYMPHADENOMA AND TUBERCULOSIS.

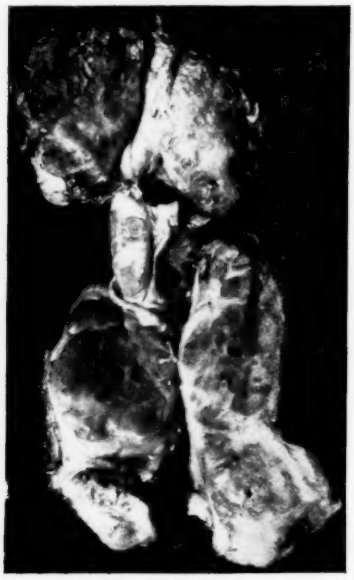

FIG. 1.—Photograph of the intra-thoracic glands with the foci of necrosis. (By the courtesy of Captain Barnard, Radiologist, General Hospital, Madras.)

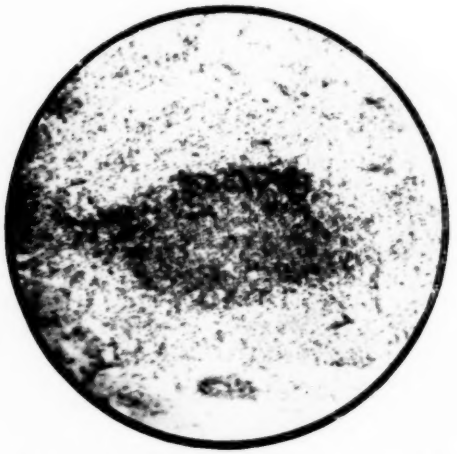

FIG. 2.—Showing the lymphoid areas surrounded by dense fibrous tissue. (× 82.)

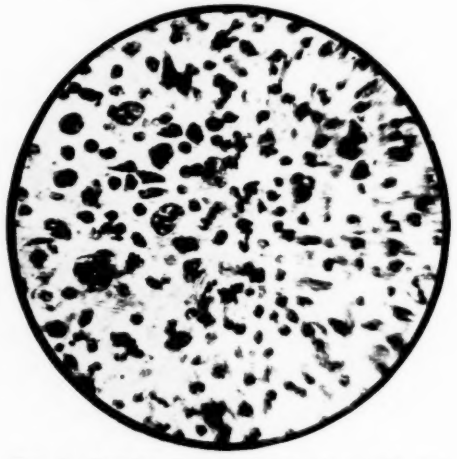

FIG. 3.—Showing the endothelial giant cells and multinucleate endothelial cells. (× 720.)

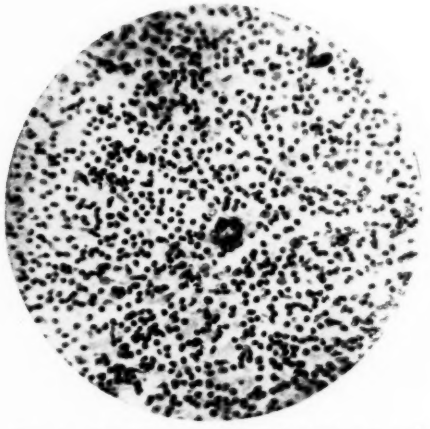

FIG. 4.—Showing an endothelial giant cell with large nuclei arranged round the periphery. (× 450.)

R. MORTON: RAPID HEALING OF A GASTRIC ULCER.

FIG. 1.

FIG. 2.

FIG. 3.

showed a blood-stained fluid at increased pressure, and that he had obtained the following history from her husband.

Three weeks previously she had sudden excruciating pains in the nape of the neck, with severe headache and vomiting for three days. After that she had pain behind the eyes, and headache. The evening before admission she had another sudden pain in the head, fell down unconscious, and remained so until shortly before coming in. She had never been subject to fits, and her statement to me the day before was entirely a confabulation.

During the next few days this condition of Korsakow's syndrome persisted; she would at any time, when asked what she had for dinner, give a detailed account of an ordinary plain dinner, with particulars elaborately filled in, although taking nothing but liquid food.

Further haemorrhages occurred, and she died on August 18th. She had albuminuria, retinal haemorrhages, and a blood pressure of 200/125. No necropsy was allowed.

The occurrence of Korsakow's syndrome in subarachnoid haemorrhage has been emphasized by more than one observer. Herman[7] of Warsaw, in a paper based on eighteen cases of subarachnoid haemorrhage seen in Flatau's Clinic, writes: "Chez ces malades apparait fréquemment le syndrome net de Korsakow." He states that it was first noted by Goldflam, and later by Mackiewicz.

Goldflam,[8] writing in 1923, says:

"In nearly all cases, at the height of the illness, certain psychic disturbances are observed, such as disorientation as regards time, places, and persons. These are generally neither severe nor constant. In some cases these disturbances come to the fore from the beginning, and consist of delirium, motor unrest, and confabulation, corresponding with Korsakow's syndrome; a good description is given by Flatau. This psychosis may outlast the fever and meningeal symptoms by weeks. Gradually the patient recovers from his delirium, corrects his confabulation himself, and the psychic symptoms disappear completely in, say, six weeks, as occurred in one case. In their place there remains for a time forgetfulness of actions just performed—for instance, the patients tell the same story many times over without realizing it. On the whole, it may be said that memory is well retained in such cases for events previous to the illness, but there is more or less complete amnesia, either for the whole duration of the illness, or for the first few days.

"It is known that Korsakow first described his syndrome in cases of polyneuritis, hence the name 'polyneuritic psychosis.' Since then the syndrome has been observed in a number of different conditions, from toxic and infectious diseases to cerebral contusion and incurable diseases, such as progressive paralysis and senile dementia. So far as I know, it has been described in subarachnoid haemorrhage only by Flatau, and yet it is present in all cases, more or less distinctly, not infrequently in a quite typical form. (It may be mentioned in passing that it is not found in cerebral apoplexy.) Whereas the prognosis in many of the conditions mentioned is absolutely bad, or grave, it is good in subarachnoid haemorrhage, for the psychic disturbances disappear completely. It may be assumed that the anatomical changes in these cases are of a temporary nature, and that the alterations in the cortex brought about by the extravasations of blood are capable of complete regression."

Mackiewicz's paper appeared in a Polish publication which I have not been able to obtain, nor has it been possible to trace the exact reference to Flatau's publication said to have been made in 1917.

The question of prognosis was of considerable importance in the second case. The somewhat prolonged persistence of mental symptoms caused considerable anxiety, as the patient held a highly responsible position involving much speaking in public, and his whole future depended on being able to continue this. In his case Flatau's views have been fully confirmed.

Symonds[6] has divided the cases into four clinical groups, on the following lines.

Group 1.—Sudden large haemorrhage leading to coma and death within a few hours.

Group 2.—Initial haemorrhage sudden and severe, but it is checked; initial coma gives way to mental confusion with severe headache; ends in recovery or further attack and death.

Group 3.—Initial haemorrhage small; headache and vomiting may lead to confusion, coma, and death; or the patient may recover.

Group 4.—Slow leaking; gradual headache and vomiting. [This group is somewhat hypothetical.]

Of the cases here recorded No. 1 would come under Group 2, whilst Nos. 2 and 3 would come under Group 3.

If there is extensive and advanced general arterial disease, syphilitic or other, there is no *a priori* reason why a vascular rupture should not occur in a meningeal vessel just as it does in one that is intracerebral. So also if the case is one of some general disease in which a tendency to haemorrhages is a recognized feature, such as purpura, haemophilia, scurvy, leukaemia, etc. Also in cases of embolic aneurysms due to septic infection the possibility of a meningeal bleeding must be always present. In all the above circumstances subarachnoid haemorrhage may occur, and the reason why it does so less commonly than intracerebrally is due to various factors which need not concern us here.

In some of the above groups of cases the immediate source of the bleeding has been a pre-existing aneurysm demonstrable at necropsy. In others, although no aneurysm is found, the site of bleeding is strongly indicated by the appearance of the meninges at and around some particular area, and even the ruptured vessel may be found—usually a very difficult matter. Apart from these groups, which together form the bulk of the cases of subarachnoid haemorrhage met with at necropsy, cases occur from time to time which cannot be included under any of these headings. Such cases have certain features in common. Thus they often occur in comparatively young people—early adult life; they usually come as bolts from the blue in persons thought to be in excellent health; they are accompanied by pyrexia for the first week or so; there may be subretinal haemorrhages. In a considerable number of the fatal cases of spontaneous subarachnoid haemorrhage of this class an aneurysm at the base of the brain has been found, and it has been suggested that such would be found more often were the examination made with sufficient care. These have been termed "congenital aneurysms," and it is assumed that they have arisen from some localized defect of development at this particular point, usually in the circle of Willis.

Parkes Weber[9] has pointed out that the term "congenital aneurysms" is inaccurate, and does not express what is meant, and that the assumption that there is an aneurysm in all these cases, whether it is found or not, overlooks the fact that a rupture may occur without necessarily being preceded by an aneurysmal dilatation, such as might occur in undue fragility of vessels or in a naevoid angiomatous condition, either of which might give rise to a spontaneous subarachnoid haemorrhage under some slight extra strain. Such alternatives seem to fit in rather better with some of those cases in which there are recurrent attacks of "leaking aneurysm" without a fatal result occurring. It is difficult to think that an actual aneurysm at the base of the brain which has once leaked can be in such a physical condition as to leak repeatedly at considerable intervals without a fatal bleeding ere long. On the other hand, it is quite conceivable that slight ruptures of vessels might arise in different parts of the meninges from fragile vessels or from a naevoid condition, and each in turn be sealed up and permanently closed.

The point at issue seems to be, are these cases of leaking "congenital" aneurysm occurring in younger persons merely a defect at one point of otherwise normal vessels, or are they a localized manifestation of a wider defect of intracranial vessels, possibly of developmental origin? If the latter, then whether the haemorrhage is preceded by an aneurysmal dilatation or not would appear to be a matter of more or less secondary importance, the primary cause being an abnormal state of the vascular development. So far as we have been able to review the literature of these cases we have found very few records as to the microscopical condition of the intracranial vessels other than some of the basal arteries. As a rule the pathological information available is limited to the naked-eye changes found at necropsy or the microscopic examination of the aneurysm itself. Case i, which clinically conformed in every point with the classical description of spontaneous subarachnoid haemorrhage, is therefore recorded because a detailed examination of the whole brain has been made and definite evidence of rather widespread vascular changes

has been found. It suggests that we are dealing with such a widespread abnormal vascularization of the intracranial area. My thanks are due to Professor Douglas and Miss Eaves for their valuable help in the pathological investigation of this case.

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POST-ENCEPHALITIC DELINQUENCY.*

BY

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IN a recent book[1] I recalled that during the war, from September, 1915, to February, 1916, first at Commercy and later at Verdun, as medical officer in charge of the neuropsychiatrical services, I was struck by several cases of encephalomyelitis presenting peculiar mental symptoms. It was these mental forms of the disease that first put me on the road to discovering epidemic encephalitis, which, along with Moutier and Calmettes, I then called subacute encephalomyelitis. In a series of 208 patients studied at Commercy and Verdun, three had attracted my attention by their symptoms of fever, delirium, and mental confusion, which, without investigation, had been attributed to typhoid fever. One of these patients, suffering from amnesia, affective indifference, transient excitation, followed by asthenia and indolence, suggestibility, faulty judgement, stereotyped gestures, and negativism, resembled a case of dementia praecox. A fourth patient, a few weeks after influenza, had become almost demented and suffered from somnolence and intellectual collapse. A fifth had difficulty in speaking, an uncertain gait, headache, intention tremor, hemiparesis, and hemianaesthesia of the right side. A sixth, whose illness at the inception resembled, but was proved not to be, typhoid fever, suffered from diminished vision, clonic spasms of the eyes, unaccompanied by lesions of the fundus, and opisthotonos. Finally, a seventh had been seized with epileptic crises, with progressive mental deterioration, speech defects, and other symptoms too discordant to be attributed to cerebral tremor.

Eight further cases observed afterwards at Bar-le-Duc showed ill-defined mental symptoms—for example, impaired memory, intellectual deterioration, hebetude, and somnolence, but unassociated with modification of the cerebrospinal fluid. In most of these cases an infectious state was noted, accompanied by febrile reaction, delirium, fatigue, inertia, and rigidity. Although the cause of the condition, in spite of researches then being carried out, was unknown, the patients improved under treatment, but several, after the acute phase had passed, had a fixed expression, slackening down of their actions and thought processes, and in some cases a tremor—symptoms which are singularly allied to those of what is now called epidemic encephalitis. As well as these purely mental forms I described convulsive choreic, meningitic, hemiplegic, ponto-cerebellar, ponto-medullary, acute ataxic, and anterior poliomyelitis forms. Of this polymorphism Professor Achard wrote:

"It might at first be believed, and was as a matter of fact believed for some years, that the disease described in France and in Austria in April and May, 1927, respectively, was not the same, so different were the two pictures drawn of it. Our fellow-countrymen had described a disease of very diverse forms; the Viennese author a disease very simple in its symptoms. . . . It was not until later that it was noticed that the disease could assume varied, changing, and unexpected aspects, and that this very diversity appeared to be one of its essential attributes. . . . Von Economo's description represents only one type of the disease. In strict justice it is the most exact description that has the greater merit, and it is Professor Cruchet's publication, which preceded von Economo's by a few days, that takes priority."

I cite these remarks less to return to the question of priority than to emphasize the importance of the polymorphism of encephalitis, a character which I considered essential from the beginning. This polymorphism, which is found in all the clinical forms of encephalitis, is an attribute of the mental forms with which I wish to deal more particularly.

The commonly described clinical syndromes of mental disorder can be recognized only with difficulty in epidemic encephalitis. The maniacal, melancholic, and chronic delirious syndromes are never clearly defined. I have known encephalitic patients with delusions of persecution, but modified, unobtrusive, and unaccompanied by auditory hallucinations. Much the same is true of the cases of megalomania, and of those patients whose psychoses assume the obsessive form. The most common type resembles dementia praecox, but even then with sufficiently marked differences.

I will cite a case representative of the conditions I have mentioned.

THE CASE OF ALIX.

This patient was aged 10 when, on February 10th, 1920, the first symptoms presented themselves; his teachers noticed that his eyelids drooped, and that he had a vacant expression. His vision was blurred and he had diarrhoea. On February 13th, at about 6 o'clock in the evening, he fell asleep during evening preparation. He had a raised temperature and was taken to the school infirmary, where, though he went on sleeping at night, it was observed that his body would every now and then move spasmodically. The next day he went to chapel, but fell asleep there. The fever, spasmodic movements, and blurred vision persisted, and that same evening he was taken to his home in a motor ambulance. On his arrival he was put to bed. He was febrile, delirious, restless, and the spasmodic movements continued. He had no sickness and the diarrhoea stopped.

On February 15th he was very tired and his tongue was parched; movement of the head was accompanied by pains at the back of the neck; his eyes were almost closed and staring upwards; he seemed blind, and could recognize neither the doctor nor his parents. His breath was very fetid, and he could only be roused from sleep with difficulty. Owing to pains in his neck and his loins he was unable to sit up in bed. Kernig's sign was slightly positive. An examination of his blood yielded no relative information. The next day his condition was worse; his teeth were clenched, and he had difficulty in swallowing. For a few moments during the morning vision returned, but he soon fell into a state of torpor.

On February 17th he was able to read a few lines from a newspaper, though it seemed to him to be printed in very small letters. His condition improved; the attacks of sleepiness were shorter, trismus was not so pronounced, his tongue less parched, and he was able to drink some milk without too much difficulty. He had, however, rather restless nights. On February 18th and 19th the fever increased, and restlessness once more became marked, but on the 20th improvement became evident and continued until the 22nd, when he was allowed up for a little while. Delirium was still present, but occurred for shorter periods and less frequently. During the following days he improved so rapidly that he was able to go out and ride a bicycle during the first week in March. He still had attacks of sleepiness, however.

Six Weeks Later.

When I examined him about six weeks later he seemed much better. He would get up about 6 or 7, ride his bicycle, and live a normal life till about 5 or 6 in the evening, when he would go to bed tired and fall asleep. At 7 he would be awakened for dinner, but sometimes he would be so overcome with sleepiness that he would keep mouthfuls of food in his mouth without swallowing them. Occasionally he would fall asleep after each mouthful. On certain days he had to be carried upstairs, undressed, and put to bed; his sleep was restless, and sometimes he was even seized with somnambulism.

The changes in his character were very remarkable; he had become irritable and insolent, and had violent outbursts of anger which were followed immediately by sleepiness. He would repeat the same thing over and over again, and would constantly put the same questions. When a story was read to him he would ask for the explanation of each word, even when he knew it quite well. He was unstable and changed his games frequently. Before his illness he was, if anything, mentally advanced for his age; now he was rather backward. His memory appeared to have deteriorated and his intelligence to have slackened. He complained of fatigue and headache at the slightest mental

* Abstract of a lecture delivered in English at the Universities of Glasgow and Edinburgh, on the invitation of Professor Currie and Professor Edwin Bramwell, April 22nd and 29th, 1929.

effort. His words were those of a child younger than himself; he spoke of going on a steamer or of becoming a naturalized American. He often had phobias. One day he thought that a heap of dust was a dead man and was afraid to approach it. If his sister's food fell on the ground he was worried that she might poison herself; if she had no hat, she was sure to get sunstroke, and so on.

On examination, his left eyelid was seen to be slightly drooping; the right eyelid was normal, but the droop in the left had noticeably increased since his recent illness. The left pupil was smaller than the right, which was slightly affected with mydriasis. Reaction to light was weak and vision blurred—in the right eye more than the left. There was no diplopia. Right eye vision was 10/10, left eye 3/10. His patellar reflexes were brisk.

It is needless to discuss the diagnosis. The case was one of encephalitis, of the lethargic type, such as was seen above all during the winter of 1919–20, the period of the first great French epidemic. The attacks of sleepiness, with their curious associated symptoms, were pathognomonic. It is worth considering the later stages of Alix's illness. As he grew he became more difficult and unmanageable; his physical development made rapid strides, but his mental state became increasingly unsatisfactory.

Three Years Later.

When I saw him in 1923 Alix was 13 years old, but so well developed physically that he looked 16. He was no longer affected with somnambulism, but his character had become progressively worse. He was irritable, insolent, quarrelsome, argumentative, boastful, would listen to no reproof, and insisted on having his own way in everything. In his narratives, shooting, fishing, rifle shots, and knife thrusts no longer had any terrors for him. He was, in fact, an excellent swimmer, and would plunge without hesitation into the Gironde, and, in spite of the strong current, remain in the water for hours on end, at the risk of drowning; or he would go out among the rocks, climbing the most impracticable places without realizing the danger.

This Hotspur had phobias in singular contrast to his intrepid nature. He was terribly afraid of microbes and had a mania for cleanliness; he was for ever washing his hands and scraping the soap he had used with a knife for fear that it had become contaminated. He changed towels immediately after using them, and if anyone else touched his towel he would throw it on the ground and immediately take another. He was afraid of spiders and saw them in his nightmares; he accused them of having urinated into his bed from the ceiling of his room. He had similar phobias for rats. He had become not only unpleasant in his behaviour—even spitting into the faces of people beside him—but often actually indecent.

A Year Later.

A year later, in 1924, a new factor appeared; he began to have spasmodic torticollis, which became progressively worse. At first there was no spasm when he was lying down, a little rigidity when he sat up, and twisting of the head and neck towards the right side only when he stood upright and began to walk. Any effort—for example, riding a bicycle—that brought into play the muscles in his arms and trunk exaggerated the condition. At this same period he experienced real difficulty in speaking, and was not always well understood. His instability, impulsiveness, and lack of will-power remained, and though for some time he was apprenticed to a locksmith, it was found impossible to teach him a trade. At the slightest reprimand from his mother he would become spiteful; sometimes he would strike her, being afterwards seized with remorse; or he would engage in a violent physical struggle with his father, become recklessly destructive, and shortly afterwards cry bitterly and make exaggerated manifestations of affection towards his parents. His petty indecencies were frequent, and he became gluttonous.

Present Condition.

We come now to March, 1929. Alix is 19 years old, tall, robust, full of physical energy, but his neuropsychic condition has scarcely altered. Neither the spasmodic torticollis nor the mental state has been modified by the numerous treatments followed for the past five years; these have included five pilgrimages to Lourdes, vibratory massages at the hands of various quacks, electrical, *x*-ray, and actinotherapeutic measures at a neurological centre, and the prescriptions of many doctors and specialists. Splints have not been successful as a remedy for the torticollis.

As soon as one meets Alix one is struck by this spasmodic torticollis. His head is turned to the right and droops in front, the chin resting on the collar-bone. The left sterno-mastoid muscle seems to be stretched, hard, and hypertrophied. With great effort he can lift his head and move it towards the left, but soon, by successive jerks, it turns again towards the right shoulder. To lessen the fatigue resulting from the constant effort to keep his head lifted, he presses on the right side of his forehead, or on the right superciliary ridge, but his hand gets tired in its turn, and he has to support it by leaning his elbow on some fixed point. This antagonistic gesture is well known to neurologists. The phenomenon is certainly of central origin, as I pointed out at the Annual Meeting of the British Medical Association in Edinburgh in July, 1927, when S. A. Kinnier Wilson read a paper to the Section of Neurology on tics and allied conditions. I stated that in 1907 I had already noticed the occurrence of Brissaud-Meige's "efficacious antagonistic gesture" in spasmodic states of non-mental origin, and that I had recently seen it in several cases of torticollis following epidemic encephalomyelitis.[2]

Alix's speech is muddled and explosive, and, especially at the end of the day, it is often difficult to understand him. He complains of getting tired fairly quickly; though he has retained his vigorous brute strength he has lost some of his agility and suppleness.

He eats at all times of the day, gluttonously, without control, and messily; at meal times he sits down to table, but every two minutes gets up, goes away, and returns, never satisfied. He is in constant conflict with his neighbours, before whom he behaves coarsely and without restraint. He likes to play the rich young man, changing his clothes and shoes as often as ten times a day. He loves the company of distinguished persons, to whom he writes ardent letters which he takes seriously. He spits wherever he happens to be, and has other objectionable personal habits. He is still quarrelsome, and if crossed will shriek aloud and roll on the ground, simulating a state of lethargy.

Discussion and Diagnosis.

All the post-encephalitic cases with psychic disorder, in children or adolescents, seem almost copied from each other. The true pervert, unlike the post-encephalitic pervert, displays an original evil impulse, which remains the same or becomes aggravated with age. He is persistent, incorrigible, cynical, and content to give himself up to his taste for morbid spitefulness. He delights in the refinement of suffering, remaining cold and insensitive to the moral pain he inflicts on those around him. He is often given to violence, thieving, lying, and pretence.

The post-encephalitic patient, on the other hand, becomes perverted only after his illness; his perversity is relative, as unstable as his character, irregular and fanciful. It is a question of playing pranks rather than of doing real evil. His cruelty is never coldly systematic, and it is unpremeditated. He is, moreover, affectionate, sensitive to reproof, and penitent. If he steals, lies, has violent fits of anger, or practises indecencies, it is more out of thoughtless imitation than of genuine vice. If he simulates, it is more like a capricious child acting without discrimination than knowingly to deceive those about him. His appearance, too, is very different. The look of the real pervert is hard, icy, deceitful; that of the post-encephalitic is gentle, sometimes shy or self-satisfied, smiling—the marks of a character which easily unburdens itself. Professors Euzière and Pagès[3] (Montpellier) have rightly insisted on the significance of this sensation of well-being, which, as they say, is so characteristic of Cruchet's disease.

The mental condition of the post-encephalitic delinquent strongly reminds one of dementia praecox: lazy, impulsive, incoherent, suggestible, and yet negativistic, given to affection, sudden escapades, offences against decency, and disconcerting failures of memory and judgement. His mental state at a given phase in his illness undergoes a sort of regression, but it is not a regression which goes on increasing until it ends in dementia; it stops at a period which varies according to the intensity of the encephalitis. Thus a child of 10 may regress to the mental age of 6 or 7, or even younger; a child of 15 or 16 may fall back to the intellectual level of 10 or 12. In certain cases, when the illness is over, the patient gradually recovers the abilities temporarily lost, and starts again on the upward grade towards the normal state. In other cases the psychic condition becomes fixed at the point of regression reached by the patient; or else it becomes stabilized at the age of the child at the time of its illness. Thus Alix's mother said, "In my opinion my son's brain has not progressed; it has remained as it was when he was 10, the age when he took encephalitis."

It must be added that the disease frequently implants in these children, even those stabilized at a given age, a form of morbid agitation and perversity, of which a weak

character is the essential sign. But if it be admitted that this perversity may remain markedly identical to that of the age of the beginning of the disease—for instance, as in the case of Alix—one can quite conceive its seeming considerably exaggerated when the patient has become an adolescent of 18, a young man of 25, and, with all the more reason, a man of mature age. One is thus tempted to see deep instinctive perversity where there exists only the puerile perversity of a weak-minded person. There lies the capital phenomenon, which it is easy to recognize as soon as attention has been drawn to it.

The perversity of the congenital pervert, in fact, increases with age; in the case of the post-encephalitic it may get better, or sometimes worse; most frequently it remains identical through the different periods of his life, but—and this is the essential point—with a mental debility which is henceforth constitutional. This state may improve in some cases, but frequently it changes for the worse or remains stationary; one is then obliged to put such patients in schools for nervous and abnormal children, like the one of which I am the head at Le Bouscat, near Bordeaux, or in reformatories when they are too difficult to look after and watch over. But in any case it is the state of mental debility which dominates the clinical picture.

CONCLUSIONS.

To sum up: what must be remembered is the variability of the post-encephalitic delinquent case, the fundamental basis of which is, above all, mental debility. One does not meet with distinct, unmistakable, categorical types of delinquents; they are irregular, undefined, and do not fit into any of the nosographic classifications which have been established up to the present. It would seem that the morbid histological diffusion of the encephalitic virus, which is so evident, involves a sort of regrouping of mental clinical states, which, for the moment, disorientate the mind and bring to it an impression of disorder.

And, finally, there can be recognized even in the enumeration of the descriptions of the mental clinical forms themselves, and of delinquency in particular, the polymorphism of encephalomyelitis, to which I drew attention in 1917, and which, after having been ill understood and rejected at that time, has to-day become a classic datum which is no longer even questioned.

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THE PATHOLOGY AND TREATMENT OF CERVICAL GLANDS IN CHILDREN.

A REVIEW OF 330 CONSECUTIVE CASES.

BY

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WHATEVER may have been the advance in social legislation in recent years, any surgeon connected with a children's hospital in Scotland must have been struck with the prevalence of cervical adenitis. It is proposed in this paper to consider the pathology and to give, if possible, the true indications for conservative and operative treatment. It is essential to picture the distribution of the cervical glands and to understand their structure. Figs. 1 and 2 may suffice.

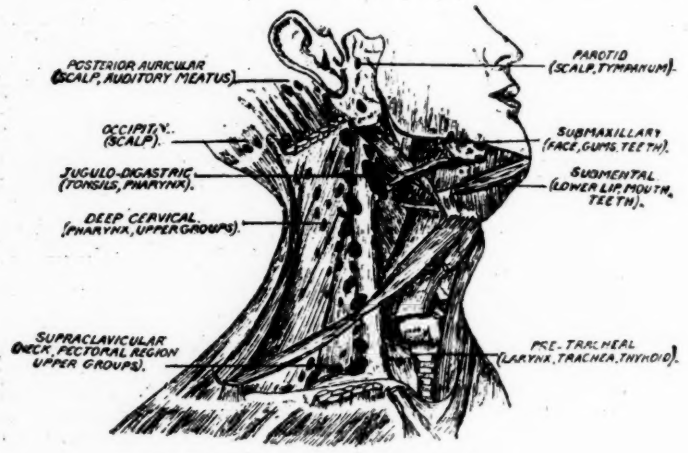
POSTERIOR AURICULAR (SCALP, AUDITORY MEATUS).
OCCIPITAL (SCALP).
JUGULO-DIGASTRIC (TONSILS, PHARYNX).
DEEP CERVICAL (PHARYNX, UPPER GROUPS).
SUPRACLAVICULAR (NECK, PECTORAL REGION UPPER GROUPS).
PAROTID (SCALP, TYMPANUM).
SUBMAXILLARY (FACE, GUMS, TEETH).
SUBMENTAL (LOWER LIP, MOUTH, TEETH).
PRE-TRACHEAL (LARYNX, TRACHEA, THYROID).

FIG. 1.—Distribution of the cervical glands.

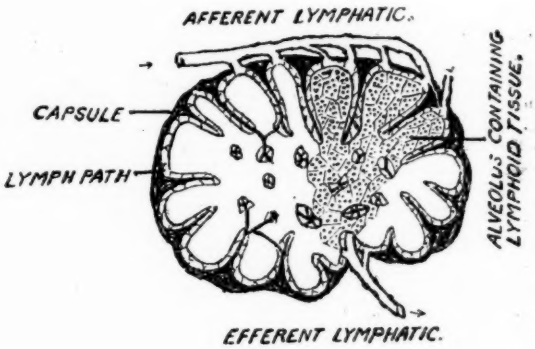

FIG. 2.—Lymphatic gland.

Children up to 12 years of age are treated in the Royal Aberdeen Hospital for Sick Children; 330 cases of cervical adenitis were treated during the period reviewed—March, 1923, to March, 1927. Enlarged cervical glands were found to be more common in girls than in boys. The numbers were 183 and 147 respectively. The present series has been followed up for two to six years after leaving hospital. They may be divided into two main groups: (*a*) Acute and subacute non-tuberculous adenitis—74 cases (22.4 per cent.). (*b*) Chronic tuberculous adenitis—256 cases (77.6 per cent.).

ACUTE AND SUBACUTE NON-TUBERCULOUS ADENITIS.

Although poor general health and defective hygienic surroundings are undoubtedly contributory factors, enlargement of glands is usually secondary to some local focus of inflammation. The primary causes were:

Infections of the nasopharynx, including the exanthemata	28
Infections of the scalp	24
Chronic otitis media	8
Dental caries	6
Septic abrasions of the face	6
Unknown	2
	74

Infections of the Nasopharynx.—The jugulo-digastric and neighbouring deep cervical glands are usually involved, the prevailing organism being the haemolytic streptococcus.

Infections of the Scalp.—Septic abrasions following trauma or chicken-pox and impetigo contagiosa commonly cause enlargement of the occipital and posterior auricular glands. They tend to suppurate rapidly. The infection is most frequently staphylococcal. In the poorer classes pediculi and "nits" account for many cases. It has been said that the swollen glands are secondary to abrasions caused by scratching, or to infection entering the skin by the biting of lice. Such views are open to doubt. The glands affected are usually the jugulo-digastric and upper deep cervical group. They are oedematous to the touch, and differ in type and distribution from glands secondary to suppuration in the scalp. Whether they are toxaemic in origin or not, it is exceptional to isolate organisms from the glands. "Nit-glands" readily subside on treat-

ment of the scalp with sassafras oil, but soon become necrotic if the scalp is left untreated.

Chronic Otitis Media.—Disease of the middle ear, unless tuberculous in origin, does not appear prone to cause enlargement of glands. Occasionally a chain of small glands is found along the posterior border of the sterno-mastoid muscle.

Dental Caries.—It is surprising how few cases of cervical adenitis can be traced to this cause. Glands are usually secondary to a suppurative periostitis. A single gland of the submaxillary or submental group is most commonly found.

Septic Abrasions of the Face.—Swelling of the submental and submaxillary glands is common in children under 3 years of age. Suppuration rapidly takes place, with a local cellulitis of the neck. Staphylococci from abrasions about the chin and lips account for most of the cases. The average duration of acutely inflamed glands when first seen was twelve days. They may be divided into two clinical groups.

Group A.—Glands which have appeared suddenly—a simple parenchymatous enlargement without any appreciable pathological change in response to a peripheral focus of infection. They feel soft, elastic, and are freely movable, in contradistinction to glands which are hard, solid, and adherent—the invariable signs of necrosis and commencing suppuration. There are no reliable means of judging the bacteriology of glands which recover with conservative treatment, although some idea may be formed from the type of primary focus present. Active treatment of any infected area is our mainstay. Local applications are of little value, and remind one of the days of charms and love potions. Operation can be deferred indefinitely, provided the glands show no progressive change, but they should steadily subside after a few weeks' treatment.

Group B.—Glands which have gone on to abscess within a few days of onset. They are common in very young children, and follow some febrile disturbance or untreated septic focus. The inflammatory process is usually limited to the anterior triangle of the neck. In the fulminating cases suppuration takes place in a few days, and the outline of the glands is soon marked by an astonishing degree of periglandular infiltration. The picture becomes that of a cellulitis of the neck.

The child's general condition and throat require careful attention; glycerin of borax is useful in babies, glycothymoline in older children. Iodine, ichthyol, mercurial ointments, etc., applied over acutely inflamed glands can be of no possible value, and frequently hasten destruction of the skin. Fomentations are most useful in acute cases. On any sign of fluctuation or impending respiratory distress the neck should be incised and free drainage established. Pathological tonsils should be removed later. The results of treatment of non-tuberculous glands are noted in Table I. The single fatal case ended with a streptococcal septicaemia.

TABLE I.—*Results, Non-tuberculous Glands (74 Cases).*

	Peripheral Focus only Treated.	Dissected.	Incised.
Number of cases	32	5	37
Number traced	32	5	34
No glands remaining	24	3	27
Small glands, non-pathological ...	4	—	3
Recurrence of inflammation	4	2	3
Died	—	—	1

A child aged 2. Three days previously swollen glands were discovered in the right side of the neck. The mass rapidly increased in size, and symptoms of acute toxaemia with dyspnoea became evident. The neck appeared purplish-red, brawny, and indurated; this was particularly marked in the submaxillary region. On incising the neck no pus was found. The child died in forty-eight hours of an acute streptococcal septicaemia.

CHRONIC TUBERCULOUS GLANDS.

It is noteworthy that a family history of tuberculosis was only occasionally elicited. Many gave no history of antecedent disease. Infections of the fauces and nasopharynx, alone or in association with the exanthemata, preceded the occurrence of a very large number, scarlet fever, measles, or whooping-cough acting as predisposing causes to tubercle or lighting up quiescent tuberculous deposits. Haemolytic streptococci appear closely related to the activities of the tubercle bacillus. The following table gives the previous history in 256 cases.

No history of previous illness	99
Disease of the pharynx or nasopharynx	90
Dental caries	17
Measles	16
Scarlet fever	13
Whooping-cough	11
Chronic otitis media	5
Diphtheria	3
Retropharyngeal abscess	2

It is interesting to note that, with the exception of a few cases of tuberculous otitis media and mediastinal tuberculosis, no case gave a history or exhibited a sign of tuberculous disease elsewhere.

Tuberculous adenitis is frequently ushered in by acute symptoms during the course of some of the exanthemata when the outline of the glands is at first obscured by periglandular swelling. The latter gradually subsides, leaving typical discrete chronic glands. The slight improvement so frequently witnessed with conservative treatment at this stage does not herald a recovery in the gland tissues, but rather suggests that the infection has simply been localized within the capsule. When glands remain enlarged, necrosis has probably taken place in the alveoli during the original acute attack. It is common to find typical destructive tuberculous lesions after a history of three to four weeks. The more chronic type commences as small glands which gradually increase in size and number.

Bacteriology.

Mitchell[1] of Edinburgh, from his investigations into the prevalence of the bovine type of tubercle bacillus, found that cow's milk containing tubercle bacilli was clearly the cause of 90 per cent. of the cases of tuberculous glands in Edinburgh and district. He found the tonsils tuberculous in 35 per cent. The tonsils may be large, pale, and obviously diseased, or small, embedded beyond the pillars of the fauces, and apparently normal. It has been proved that organisms may pass through the portals of the tonsils without the latter being diseased. Wood,[2] in an experimental study of the lymphatic drainage of the faucial tonsils, demonstrated, on injecting the tonsils by Gerota's method (Berlin blue and pure spirits of turpentine), that efferent lymphatic vessels from the tonsils passed directly to the jugulo-digastric and neighbouring deep cervical glands.

It is interesting to contrast the findings of Howarth and Gloyne[3] in the London area; they state that tuberculous changes in the tonsils were found in 5 per cent., and that tuberculosis of glands is a late infection and follows a previous invasion by the streptococcus. It appears probable that the prevalence of the bovine and human varieties of tubercle and the numbers of streptococcal cases

TABLE II.—*Distribution of Tuberculous Glands.**

	No. of Cases.	Jugulo-digastric and Upper Deep Cervical.	Jugulo-digastric and Submaxillary.	Submaxillary and Submental.	Deep Cervical, Upper Group.	Deep Cervical, Lower Group.	Parotid.	Posterior Auricular.	Occipital.	Pretracheal.
Simple enlargement	2	2	—	—	—	—	—	—	—	—
Caseated glands ...	121	95	4	9	5	4	—	2	—	2
Caseated glands with abscess	111	78	4	6	9	6	3	3	—	2
Caseated glands with sinus	22	14	3	1	2	2	—	—	—	—
Total	256	189	11	16	16	12	3	5	—	4
Percentage ...		73.8	4.3	6.3	6.3	4.7	1.2	1.9	0.0	1.5

* Proved to be tuberculous on histological and bacteriological examination.

vary widely in different localities. This fact may well account for the extreme diversity of opinion regarding the treatment of cervical adenitis.

Tubercle bacilli reach the cervical glands along the course of the lymphatics from peripheral foci or find an entrance through the blood stream. (See Table II.)

Lymphatic Infections.—Of the 256 cases, 232 (90.6 per cent.) were considered lymphatic infections, as the distribution of the glands—jugulo-digastric group (78.1 per cent.), upper deep cervical (6.3 per cent.), submaxillary and submental (6.3 per cent.)—corresponded to drainage from local tuberculous lesions in tonsils, adenoids, and carious teeth. Further, it was found that no case belonging to this group showed signs of tubercle elsewhere either before or after operation.

Blood Infections.—The remaining 24 cases (9.4 per cent.) suggested blood infections from the glands involved—lower deep cervical (4.7 per cent.), pretracheal (1.6 per cent.), posterior auricular (1.9 per cent.), parotid (1.2 per cent.)—with associated tuberculous lesions in the mediastinal lymph nodes and the middle ear. Poirier and Cunéo[4] have pointed out that the supraclavicular glands receive no afferent vessels from the mediastinal glands. In tuberculous otitis media the parotid and upper deep cervical glands are usually enlarged. Swelling of the pre-auricular is more commonly found in tuberculous otitis media than in any other condition. Blood infections are more common in very young children under 3 years of age, and multiple tuberculous abscesses are of frequent occurrence. The prognosis is decidedly more unfavourable, particularly in glands secondary to otitis media, in infants. The only two deaths, occurring some time after operation, came under this group.

Pathological Changes in Tuberculous Glands.

In lymphatic infections the most marked pathological changes are found in the alveoli near the periphery; in blood infections the medulla is the first portion of the gland to suffer. In the early stages no change may be seen with the naked eye in a sectioned gland, but soon multiple greyish-white foci appear, caseation rapidly takes place, and each area becomes filled with semi-solid pultaceous debris or liquid pus. It is most important to bear in mind that a lymphatic gland is not a unilocular structure. During an attack of lymphadenitis the entire gland is swollen, but identical pathological changes do not take place in the whole gland nor in an equal degree in the different alveoli. Areas of caseation are multiple and so small that no sign of softening or fluctuation can be found. It is unusual for such areas to become completely confluent and for the gland to form a unilocular pus-sac exhibiting signs of fluctuation. More frequently only a few alveoli suppurate, while the intervening portions of the gland are replaced by a dense proliferation of endothelial and connective tissue cells. This accounts for the loss of elasticity and increased hardness of a pathological gland. It is surprising how universally clinicians fail to appreciate this danger signal.

Caseous material may lie quiescent within the capsule for several years before an extracapsular abscess forms: nevertheless it is well to remember that tubercle is not always chronic in its manifestations and that identical changes may occur in a few weeks' time. While the small septic foci steadily increase in size and threaten to involve the thickened capsule, successive attacks of periadenitis tend to bind the glands together and to form adhesions to the sterno-mastoid and digastric muscles, the deep veins, and the parotid and submaxillary salivary glands. Adhesions may be very dense where caseous material has locally eroded through the capsule. Ultimately the latter completely gives way, allowing the escape of pus and debris into the surrounding tissues and the formation of an extracapsular abscess. It is only after this catastrophe that "softening" can be appreciated. Signs of healing such as fibrosis and calcification, may be seen in an excised gland, but just as often areas of suppuration are found in other sectors of the gland. A natural recovery should never be assumed if the gland remains hard and palpable.

Clinical Types.

GROUP A. Simple enlargement ...	2	(0.8 per cent.)
GROUP B. Caseated glands ...	121	(47.5 per cent.)
GROUP C. Caseated glands with extracapsular abscess ...	111	(43.3 per cent.)
GROUP D. Caseated glands with sinus	22	(8.6 per cent.)
	256	

An average of one year elapsed before a patient came for surgical treatment. Bilateral glands were present in 6.4 per cent. of cases. Gross destructive changes had taken place in 99.2 per cent.

GROUP A.—Tuberculous glands without alveolar caseation are rare. Only two cases were seen—large solid glands which persist in spite of treatment and which cannot be distinguished from caseated glands. On section they exhibit excessive endothelial proliferation. The numerous small glands found during the dissection of a large caseated gland may not show signs of caseation, yet the vast majority, when examined microscopically, show invasion by the tubercle bacillus.

GROUP B.—Caseated glands may be of any size from a pea to a hen's egg. They feel firm and solid, occasionally hard and knotty, certainly not elastic or soft. In them a definite and, I maintain, appreciable pathological change has taken place. The typical picture is an enlarged jugulo-digastric gland near the angle of the jaw with a few smaller glands along the posterior border of the sterno-mastoid muscle. The larger gland stands out prominently in the neck. The swelling waxes and wanes with the child's general condition, the state of the nasopharynx, and the changes in the glands themselves. Alternate attacks of swelling and periods of quiescence are almost diagnostic of intracapsular necrosis and caseation; the increase and decrease of the swelling corresponding to the onset and recovery of successive attacks of periadenitis.

I have never seen a gland, showing clinical signs of caseation, recover with any form of conservative treatment. Some time ago I referred a considerable number for heliotherapy, rather against my better judgement. The glands persisted or went on to abscess. Glands may appear to shrink to half their previous size with any form of treatment as the periadenitis subsides, but it is surprising how large a caseated mass may be delivered from the deep surface of the sterno-mastoid when only a suspicion of swelling is present.

Most of the tragedies of prolonged conservative treatment result from the failure to picture the pathology of such glands. How often has one heard it said that he or she thought it quite safe to leave glands because they were still hard and showed no sign of "softening"! Ninety-nine per cent. of all glands which have persisted for three months and have attained the size of a hazel nut show signs of caseation when removed by dissection. Solid glands frequently contain pus although they have lain quiescent for twelve months. The fact that they do not change is surely a plea for removal rather than for a further period of conservative treatment; moreover, favourable occasions for successful surgical measures do not remain so indefinitely. Unsightly incisions are too often the "late" cases. Here the patient or the medical attendant is at fault; the latter should set the time limit and be competent to say when the pathological changes preclude a natural cure—and he should be capable of doing so before gross abscess formation stares him in the face.

GROUP C.—"Nature is often hidden, sometimes overcome, seldom extinguished." Caseated tuberculous glands go on to abscess whether they be treated by the carbon arc lamp, tonsillectomy, or by local applications. The following clinical types are found. (*a*) A small slowly developing abscess beneath the platysma in relation to a chronic gland, a round swelling not adherent to the skin and standing out prominently in the neck. The mass may be freely movable, and is apt to be mistaken for an enlarged gland unless fluctuation be elicited. (*b*) A large group of glands with a small superficial abscess. (*c*) An infiltrated mass in which the outline of the glands is lost in the surrounding inflammatory reaction. The sterno-mastoid is usually

densely involved, and fluctuating areas may be found in front of and behind the muscle. (*d*) A reddish-purple prominent swelling, the typical tuberculous abscess with the skin almost at bursting point.

Dissection is ideal, but often impracticable in the presence of gross suppuration. A surgeon has no qualms about embarking on a difficult dissection, and it is easy for him to be radical in his attack; but can he promise his patient the three essentials of success—no risk from haemorrhage, no injury to important nerves, no disfiguring scar? Provided the surrounding infiltration is not too great, the condition of the skin is the deciding factor. If he anticipates a soundly healed incision he should dissect. Scraping will cure many cases of abscess secondary to a single caseous gland. A large fluctuating mass should be thoroughly evacuated with a sharp spoon, and as much of the primary gland removed as possible. Residual masses may present a comparatively easy dissection at some later date. The removal of a few drops of liquid pus by aspiration is a method of treatment scarcely worthy of consideration. An infiltrated swelling, which precludes all question of radical treatment, may be benefited by heliotherapy.

GROUP D.—The clinical picture varies from a sinus leading down to a small indefinite mass of cicatricial tissue to one surrounded by an area of reddish-purple skin with large glands in the depths. "Sunlight" is worth a trial if no glands are palpable. Dissection is the proper procedure in most cases, as caseous glands await removal in the deeper planes of the neck. It may be difficult to secure a satisfactory scar if suppuration has undermined a large expanse of skin. Time may allow the skin to recover in a marvellous way, but mixed infections are common and skin recovers slowly.

Impressions on Conservative Treatment.

The armamentarium at a patient's disposal is truly amazing: a variety of paints and ointments, Bier's congestive treatment, Klapp's suction cups, cervical collars, tuberculin, tonsillectomy, *x* rays, radium, and heliotherapy. It is little wonder that many cases are far advanced and complicated by abscess when they have run the gamut of palliative measures and come at last for radical surgical treatment.

Surface Applications.—Nature is a powerful healer, and deserves most, if not all, the credit paid to iodine, ichthyol, mercurial ointments, etc. Counter-irritation is a myth. It is surprising that such applications are still in vogue. It was pointed out by Marnoch[5] twenty-three years ago that "when local applications reduced the size or caused the disappearance of swollen glands, it was very probable that one had to deal with glands which were not tuberculous at all, but which became inflamed from some irritation in the area drained by them, and that the decrease in size was due to the subsidence of the irritation and not to the applications."

Tonsillectomy.—We can take it for granted that the tubercle bacillus reaches the jugulo-digastric group via disease of the tonsils, and it is logical to attack the primary cause; pathological tonsils should be removed at the earliest possible moment. Nevertheless it is equally illogical to expect tonsillectomy to have any curative effect when advanced tuberculous changes have taken place in the glands. There are risks in dissecting with tonsils *in situ* if they are inflamed or harbour the all-too-prevalent haemolytic streptococcus.

Heliotherapy.—The brilliant results of Rollier in Switzerland have made many of us pause and wonder if surgical tuberculosis has not passed beyond our province. Treatment in the open air with exposure to the rays of the sun is always beneficial; unfortunately suitable periods are of brief duration. Artificial sunlight with the carbon arc or mercury vapour lamp improves a child's general condition, and small glands may disappear. Locally "sunlight" appears to hasten Nature's efforts at cure—that is, it accelerates the breaking down of caseous glands, abscess formation, and the discharge of pus. Taylor[6] quotes satisfactory figures in certain types, and comments on the more variable results in large solid glands. There is a risk of suppuration if caseated glands are irradiated, and one naturally hesitates to take that risk when a clean dissection is possible. I have removed glands after many months' irradiation and have found no change in typically caseated glands. This is not surprising, as the capsule is enormously thickened and there is no intimate vascular relation between a grossly pathological gland and the surrounding tissues. Heliotherapy is worth a trial in very early cases. Dr. Margaret Tod,[7] reviewing a series of cases treated in Edinburgh, states: "It will be noted that in no case has a cure been claimed, 'greatly improved' being the best result tabled."

Treatment Advocated.

The prophylactic and general treatment of tuberculosis lie beyond the scope of this paper. In deciding whether glands are tuberculous or not, one commences by excluding septic absorption from drainage areas corresponding to the glands involved—for example, treatment of the scalp in occipital and posterior auricular glands, tonsillectomy and amygdalectomy in the jugulo-digastric group, attention to the middle ear in the parotid group, removal of carious teeth, and attention to the hygiene of the mouth in submaxillary and submental glands. Palliative treatment, combined with every effort to improve a child's general condition, may be continued for two to three months if the glands steadily decrease in size. If they persist, it is highly probable that they are tuberculous. Mild cases may subside with prolonged rest in the country or after a course of heliotherapy. Whenever signs of caseation appear the glands should be removed during the earliest period of quiescence. One usually finds a single group, the jugulo-digastric series, and a complete absence of tuberculous disease elsewhere. Why risk the gradual involvement of other glands, an abscess which will endanger the symmetry of the neck, or a general dissemination of tubercle, when the single tuberculous lesion may be safely removed? Totally erroneous ideas have arisen from the comparison of tuberculous cervical adenitis, a local manifestation in 90 per cent. of cases, with tuberculous disease of bone, joints, and peritoneum—conditions which presuppose a general infection and which cannot be eradicated by operation. The universal improvement in a child's general health and freedom from tuberculous disease are good grounds for advocating radical treatment.

Surgical Treatment.

Tuberculous disease may transform the neck into a veritable maze of Daedalus. Dissections of cervical glands always require scrupulous care, are often difficult, and may be exquisitely dangerous in inexperienced hands. The operation can be safely performed at any age if the condition of the glands warrant their removal.

It is not sufficient to excise only the large masses, nor all palpable glands. Certain areas should be systematically explored; there are always glands behind the internal jugular vein and in the submaxillary region—they should be diligently sought for and removed. "Block excision" of large masses and chains of glands provides admirable museum specimens and may suggest the acme of surgical skill; unfortunately, such may be acquired at the expense of a segment of the spinal accessory nerve. It is often safer to split up large masses and to expose the nerve. The actual gland capsule should never be caught with forceps, as the larger glands contain pus and are easily ruptured. Tuberculous pus may be innocuous, but a streptococcal infection is occasionally superadded, and the less a surgeon smears his wounds with pus the better his results will be.

Dissections of glands complicated by abscess or sinuses may present formidable difficulties and may prove a very real test of skill and knowledge of pathological anatomy. Clear exposure and gentle handling will usually save the larger veins and spinal accessory nerve from injury.

Dissections in the Anterior Triangle.—The sterno-mastoid muscle stands out prominently in the neck. Between its anterior border and the line of the jaw lies an area in the shade crossed by two creases almost transverse in direction; here a scar may be almost invisible. The incision follows a skin crease and is made sufficiently long to ensure gentle handling and accurate dissection under full vision. The subcutaneous tissue and platysma are divided, leaving

a small portion of tissue over the convexity of the glands if there is any possibility of encountering pus. An elliptical incision surrounds a sinus or small superficial abscess. The external jugular vein is divided between ligatures. The sterno-mastoid muscle and surrounding structures are dissected away from the glands with a sharp scalpel. A small Mayo's scissors may be useful in exposing important nerves, but blunt and rough dissection with the finger or scissors in the depths is unsafe and liable to cause serious haemorrhage. The glands now lie in close relation to the digastric and stylo-hyoid muscles, the common facial and internal jugular veins, and the spinal accessory nerve. The internal jugular vein is exposed at a slightly lower level where the tissues are perfectly normal, the glands are elevated with forceps and are dissected off the veins, keeping the latter continually in view and catching small tributary branches before division. The wound is kept dry and free from staining. The spinal accessory nerve is found immediately beneath an enlarged jugulo-digastric gland. The deep glands along the outer border of the jugular vein remain to be tackled. A layer of fascia along the corresponding sector of the vein is divided in a parallel direction; two glands are usually found above the spinal accessory nerve and a long chain below. Although the wall of the vein may be in direct relation to the caseous interior of the gland, it is rarely necessary to remove a segment of the internal jugular vein. The submaxillary region is now explored. The salivary gland is frequently adherent to suppurating lymphatic glands, but is seldom grossly implicated. The whole gland or the most superficial portion may be excised. Care is taken of the mandibular branch of the facial nerve which passes along beneath the ramus of the mandible. Although Wood failed to trace an efferent lymphatic vessel from the tonsil to the posterior gland of the submaxillary group, I have frequently found this gland enlarged while dissecting the jugulo-digastric series. If the submaxillary glands are markedly involved, the submental region should also be cleared. All bleeding points are tied off with fine catgut and the wound is drained by a thin piece of corrugated rubber. Spaces in the neck cannot be obliterated by suture, and a collection of serum is fatal to a perfect surgical scar. The platysma is sutured with a continuous catgut stitch, which catches up a fraction of the subcutaneous tissue. The skin is closed with a subcuticular stitch of "gossamer" silkworm-gut. One or two interrupted sutures of the same material make the incision more secure. The drain is removed on the second day and the skin stitches on the seventh day.

Dissections in the Posterior Triangle.—Care must be taken of the spinal accessory nerve, which crosses superficially from the posterior border of the sterno-mastoid to the trapezius. It is well to remember that the thoracic duct is liable to injury in a low dissection. Fortunately it is more often in the form of a delta than a single channel.

Scraping of Cervical Glands and Abscesses.—A small incision is made immediately beneath the abscess, not across the convexity of a red area of skin. The primary gland must be attacked in addition to the actual confines of the abscess cavity. The bad results so frequently quoted are not surprising, as such cases are often left to those of little or no experience. The cavity is packed with a narrow strip of gauze, which is removed on the second day. Pathological tonsils should invariably be removed. One expects to have to dissect later in cases of multiple glands, or where a large gland has broken down locally to some slight degree.

Immediate Operative Risks. (See Table III.)

Mortality.—The risk of a fatal issue following the dissection of neck glands appears negligible.

Haemorrhage.—Troublesome haemorrhage occurred on two occasions; in both the bleeding point was ultimately caught with forceps and ligatured. The usual causes of haemorrhage would appear to be inaccurate vision and rough handling.

Injury to the Thoracic Duct.—The duct or a tributary was injured in one case. The surrounding tissues were gently approximated by a purse-string suture, and no fistula resulted. Judd[8] reports 10 cases in a series of 668 dissections; all recovered, although one lost 60 lb. before the fistula closed. Edington[9] quotes one death and two recoveries. A further series of wounds of the thoracic duct have been reported by Cushing.[10]

TABLE III.—*Immediate Operative Risks.*

	Dissected.	Scraped.
Number of cases	187	79
Mortality	—	—
Haemorrhage	2	—
Injury to thoracic duct	1	—
Injury to nerves:		
Spinal accessory	—	—
Hypoglossal	—	—
Mandibular branch of facial	4	—
Wound suppuration	9	—

Injury to Important Nerves.—I have never been conscious of cutting the spinal accessory nerve, although I have often perilously nearly done so, nor have any of my cases to my knowledge suffered from paralysis of the sterno-mastoid or trapezius muscles. The removal of large masses of glands *en bloc* adds greatly to the risk. Clute[11] reports 12 cases of injury to the nerve in 140 dissections, and comments on the danger of "mass dissection." Judd[12] states: "We have injured and sutured the nerve on several occasions with no deformity resulting." In the present series the mandibular branch of the facial nerve was injured on four occasions. All recovered completely. Farr[13] states that the nerve can always be preserved by making a transverse incision three-quarters of an inch below the jaw and incising the deep fascia till the vessels and submaxillary gland are exposed. This is only true in cases where the glands are not adherent to the jaw or complicated by abscess.

Suppuration.—Nine cases developed an acute post-operative infection of the neck. Haemolytic streptococci were grown from the wound and tonsils in all cases; streptococci had also been isolated from a few of the glands. This distressing complication would appear to arise from operating on children while they harbour an active infection of the nasopharynx. One case had an acute streptococcal septicaemia which almost proved fatal.

This patient was a boy aged 9. Cervical glands had been present for six months, and they had rapidly increased in size. The neck showed an enlarged jugulo-digastric gland with two superficial abscesses. Pus was encountered during a difficult dissection, and the wound was drained. Signs of acute sepsis were manifest in a few days, and haemolytic streptococci were grown from the wound and tonsils. His condition steadily deteriorated, with daily rigors and the onset of a pleural effusion. Cultures from the blood stream and pleural cavity were positive. The wound was opened up and treated by the Carrel-Dakin method. Treatment in the open air, combined with massive doses of anti-streptococcal serum, ultimately defeated the infection. The pleural effusion yielded to aspiration.

End-Results following Dissection.

Number of cases	187
Number traced	183
Alive and well	183
Developed tuberculous disease elsewhere	0
Recurrence of cervical glands	6

The danger of generalized tuberculosis would appear immeasurably greater in allowing tuberculous deposits in the neck to run a natural course than by removing glands by dissection. Demmè,[14] reviewing twenty years' work in the Jenner Children's Hospital, Bern, treated 692 cases of cervical adenitis by constitutional measures, and found that 29.2 per cent. developed other forms of tuberculosis. All surgeons are agreed that the outlook is infinitely more favourable in children than in adults. Dowd[15] states that the incidence of pulmonary tuberculosis following dissection of neck glands in children is about 1 per cent., whereas Judd,[16] reviewing 600 dissections in adults, found that 5 per cent. developed tuberculosis of the lung.

Recurrence of Glands.—In the present series 6 cases showed post-operative glands; 3 of these required further

surgical treatment. Most of them were not true recurrences, but dated from the time of one's apprenticeship to surgery, when dissections were not so thoroughly performed. Excision of the gland-bearing fascia with a sharp scalpel is preferable to blunt dissection of individual glands with a Mayo's scissors. One case reported with several large glands in the anterior triangle after two previous dissections by a competent surgeon. On removing the glands for a third time a small abscess was found deep to the digastric muscle, and extending towards the pharyngeal wall. Any focus of infection may act as a stimulus to recurrence, and small particles of lymphoid material may grow and ultimately function as glands. It has also been said that lymphadenoid tissue, metamorphosed into fat, may resume its original lymphadenoid structure.

Condition of Scars following Dissection (see Table IV).—In 84 per cent. fine linear scars were present, with no suspicion of redness or surface prominence; of these, 40 to 50 per cent. were practically invisible unless the neck was closely inspected. A few broad scars are to be expected in cases reporting with abscesses or sinuses when the subcutaneous tissue had largely sloughed away. No case of keloid was seen. The pathology of this condition is still wrapped in mystery. The following are in my opinion contributory factors: an active untreated primary focus, a "bevelled" incision, inaccurate closure of the skin, the use of catgut skin sutures, and any swelling leading to stretching of the scar. The skin incision should be closed by a subcuticular stitch, which coapts the edges so accurately that they immediately adhere. No raw area should remain to ooze or heal by a process of superficial granulation.

TABLE IV.—*Condition of Scars following Dissection.*

	Cases.		Scars		
	Dissected.	Traced.	Fine linear.	Slightly prominent.	Broad or adherent.
Simple enlargement	2	1	1	—	—
Caseated glands	121	120	107	12	1
Caseated glands with abscess ...	46	44	33	7	4
Caseated glands with sinus ...	18	18	13	3	2
Total	187	183	154	22	7
Percentage			84.2	12.0	3.8

Results of Curettage.

Of 111 tuberculous glands complicated by abscess, 32 were dissected,* the remainder were scraped, with the following results:

No glands remaining	38
Small glands, non-pathological	13
Required dissection later	14
Pathological glands still present	7
Untraced	5
Died later	2
	79

Two infants, suffering from tuberculous mastoiditis with secondary glands and abscesses, succumbed to tuberculous meningitis a few months after operation. The spread to the meninges would appear to have taken place directly from the petrous bone. In neither case was any radical operation performed on the ear or mastoid cells.

I find that 50 per cent. of tuberculous glands complicated by abscess ultimately require dissection, that 34 per cent. recover completely after curettage, and that the remainder have small palpable glands which do not appear pathological. Cases of chronic abscess arising from a single caseous gland have a reasonable prospect of cure, as the smaller associated glands subside if safeguarded from further bouts of infection by removal of tonsils, etc. One naturally wonders if a follow-up period of two to six years is not rather brief, but end-results in tuberculous adenitis are akin to malignant disease—there is no time limit to recurrence. It is by no means easy to be dogmatic about small glands remaining after curettage, as I find the jugulo-digastric glands palpable as small ovoid bodies about the size of a haricot bean in 85 per cent. of healthy children, and smaller glands along the posterior border of the sterno-mastoid are not uncommon. Dowd,[17] commenting on similar nodules, remarks: "I have watched nodes of this kind year after year, and have hardly ever seen them increase in size and have frequently seen them subside, a few have been removed and almost without exception have proved to be hyperplastic."

I maintain that minute glands which are perfectly soft and not larger than a bean can be safely left to Nature; other observers might deem them pathological—then they present the easiest of dissections if one is obsessed with the idea of removing the last shred of palpable lymphatic tissue from the neck.

Conclusions.

1. As seen in a surgical out-patient department 10 per cent. of glands are likely to recover with treatment of a peripheral focus of infection. Such glands are probably not tuberculous.

2. Necrosis and caseation take place rapidly in tuberculous glands.

3. The signs of caseation are increased hardness and loss of elasticity, not "softening" as is generally thought. Softening or fluctuation indicates an extracapsular abscess.

4. Palliative measures may allow the subsidence of periadenitis, but have no influence on the intracapsular substance of the gland.

5. The fact that 51.9 per cent. of tuberculous glands are complicated by an abscess or sinus suggests that conservative treatment is usually unduly prolonged.

6. Tuberculous glands should be removed by dissection whenever signs of caseation become manifest; the presence of an abscess is no contraindication.

7. Curettage gives satisfactory results in selected cases.

I have to acknowledge my indebtedness to Dr. E. A. Johnston and Dr. T. O. Morrison for their help in arranging the "follow-up" of patients, and to Miss Kathleen I. Stewart for her assiduous care and skill in the post-operative treatment of my cases.

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* I now dissect a much larger proportion.

SOME ASPECTS OF THE TREATMENT OF RHEUMATOID ARTHRITIS.

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In briefly outlining the most important forms of treatment of rheumatoid arthritis, I would draw attention particularly to the benefit ensuing from consideration of the mechanical aspects of the affliction. Drug and vaccine therapy are scarcely considered, for both are strongly represented in current literature, and neither has proved of much efficacy.

So long as it is held that the presence of focal sepsis is the chief or only etiological factor, so surely shall we make no progress in the treatment of the disease. Prior to the advent of the wave of enthusiasm for bacteriology, clinicians directed their attention to the constitutional abnormalities of the individual as a whole. Resulting therefrom came the masterly accounts of the disease, such as that of Kent Spender,[1] unsurpassed in accuracy of clinical observation by modern writings. When the medical mind focused on the dangers of dental and tonsillar sepsis, the concurrent

diathetic and acquired widespread deviations from the normal were overlooked. The result is that the outlook for the rheumatoid patient is little, if any, better to-day than it was fifty years ago. Too many of our patients have been rendered edentulous only to suffer the miseries of disturbed digestion and steadily stiffening joints. Such failures may be explained by postulating the presence of microbes in the interstices of the jaw, and operation advised to remove doubtfully infected bone. Pulmonary abscess is then a common sequel.

If, however, we pause to review the aggregation of cases loosely termed "chronic rheumatism," we find that as a rule they may be separated into three clinical types.

1. Rheumatoid or atrophic arthritis, a disease occurring largely in females of reproductive age and characterized by little or no pyrexia, low blood pressure, and unstable pulse rate,[2] scattered pigmentation of the skin,[1] on a basic waxy pallor, generalized wasting in addition to pronounced atrophy of the muscles about the affected joints, visceroptosis, hypochlorhydria, exaggerated tendon reflexes, and symmetrical swellings of smaller joints, particularly those of the fingers. The skin over the affected articulations is pale and atrophic, and local tenderness to pressure is never a striking feature. With the exception of increased translucency, bony change is absent for months or years.

2. Infective arthritis (excluding pneumococcic, gonococcic, etc.) occurs with equal frequency in either sex. It is usually associated with frankly demonstrable sepsis in the mouth or maxillary antra. Pyrexia is the rule, and the affection is asymmetrical, involving larger joints—for example, wrist, ankle, and knee—than those attacked in the atrophic type. There is local redness and tenderness of considerable degree, but none of the general constitutional abnormalities noted in the first class. The condition clears up spontaneously, or is greatly ameliorated, on elimination of the infected foci.

3. Osteo-arthritis, or hypertrophic arthritis, occurs usually after the age of 40, and attacks otherwise robust and commonly obese individuals who exhibit good muscular and visceral tone. The acid content of the gastric juice is a high normal. The joints commonly affected are those of the knee, hip, and fingers, but there is early enlargement of the bones with osteophytic outgrowths, and obvious lipping of the articular margins is demonstrable by *x* rays. There is no constitutional disturbance, and the disease progresses slowly and often painlessly for many months.

Predisposing Factors.

Inquiry into the previous history of patients with rheumatoid arthritis reveals a series of deviations from the normal, such as is not found in the other types. Thus the subjects have always been of spare build, intellectually efficient, but lagging behind their fellows in physical prowess. They have suffered from the cold, and chilblains on blue, clammy extremities have recurred with monotonous regularity winter after winter. Llewellyn[3] has drawn attention to the frequency of mucous colitis, urticaria, blanching of the fingers, and erratic sweats which characterize childhood and adolescence. It is difficult to determine the point at which rheumatoid arthritis actually develops. Loss of weight and vigour often precede the onset of joint swellings by many months, and when articular involvement is finally apparent it is usually at first transient in nature, a feature of differentiation from the proved infective forms.

Metabolic Errors.

Metabolic changes have been demonstrated in rheumatoid arthritis. The chief of these is deficiency in the oxidative processes occasioned, it is believed, by the existence of large areas of vaso-constriction and capillary stasis. Resulting therefrom are decreased sugar tolerance and relative increase of neutral or imperfectly oxidized sulphur in the urine.[4] It is stated[3] that these abnormalities can be corrected by the use of vaso-dilators. If this be the case, it supports the theory that the fundamental disturbance of the disease is that of sympathetic instability. It has been postulated that the basis of the sympathetic instability lies in a disturbance of the endocrine system, particularly in the direction of hypothyroidism. The arguments are suggestive, but not yet convincing, for many of the symptoms of rheumatoid arthritis are rather those of hyperthyroidism, and I have rarely found a basal metabolic rate of abnormally low level.

Space does not permit of a full discussion of this interesting problem, but enough has been written to emphasize the fundamental truth that rheumatoid arthritis is a disease developing on a grossly abnormal soil, and that inattention to this fact must militate against the production of effective cure.

TREATMENT.

Diet.—In the acute stage a bulky diet poor in nutritive value should be prescribed. Such consists largely of fresh fruit and green vegetables. After two weeks, fish, chicken, and red meat may be added, but starchy and saccharine foods should form a small proportion of the total in view of the noted inability to deal adequately with glucose.

Drugs.—Medicinal treatment is of small value. Apart from symptomatic treatment for the relief of pain, preparations of iodine and thyroid gland are chiefly favoured. The effect of the latter in stimulating the sluggish metabolic processes explains any improvement which may follow its use.

Elimination of Sepsis.—The utmost caution should be exercised before advising the removal of teeth or tonsils suspected of infection. In a disease presenting abnormalities of skin, gastro-intestinal, muscular, and vascular systems, it is scarcely to be expected that healthy teeth would be found in an otherwise diseased individual. Recession of the gums, the formation of pockets, and *x*-ray appearances of early infection are the result, not the cause, of rheumatoid arthritis, and to advise wholesale extractions is as illogical as to counsel removal of the colon on account of sluggish peristalsis. Both conditions subside *pari passu* with recovery from the general disease. On the other hand, frank sepsis should be eliminated, for its presence will lower the bodily resistance, and the absorbed toxins may act indirectly, through damage of the endocrine system, in producing arthritis. It is of peculiar interest to note that Pemberton[5] found infected foci in 70 per cent. of his 1,100 cases of chronic arthritis, but the number of recoveries was three times as great in those in which sepsis was allowed to remain as in cases from which it was eliminated.

Application of Heat.—Probably the relief derived from thermal treatment by radiant heat baths, diathermy, dry air baths, and hot wax applications is largely referable to the improvement which they produce in the peripheral circulation. I have achieved the best results by the use of a cabinet heated by electric light bulbs and into which air, previously dried by passage through chemicals, and impregnated with a volatile rubefacient, is pumped. The patient is given one-tenth of a grain of pilocarpine hypodermically before entering the cabinet. Profuse sweating occurs, but, owing to the dryness of the air, the perspiration evaporates rapidly, and the patient emerges refreshed rather than in the state of sodden exhaustion produced by many other forms of heat. General massage is carried out immediately after each treatment. Within a few weeks there is a noticeable improvement in the condition of the skin and joints, and the patient is relieved from the wearying pains and insomnia which have caused so much distress in the past. The method of application of hot paraffin wax has gained prominence of recent years, and bids fair to supersede many of the older forms of thermal treatment. Owing to the non-conducting nature of this substance, it can be applied at temperatures of 120° to 170° F. to the entire body without producing a burn. Additional safety is ensured by the fact that a cushioning effect is produced by the inclusion of a thin layer of air between the wax and skin. Heat loss is very slow, thus a constant high temperature can be maintained for half an hour or more before the solidified casing is removed and the abundant sweat wiped off.

Use of Splints.—Mechanical appliances for the control of joint movements are required (*a*) in the acute stage of the disease in order to prevent contractures and to allay pain; (*b*) in the late stages when the patient suffers from the crippling effects of periarticular and intra-articular

adhesions. In the former case light splints should be applied to hold the shoulders abducted, elbows semiflexed, forearms incompletely supinated, wrists dorsiflexed, fingers extended with radial deviation, thumb slightly flexed and adducted. As regards the lower extremity, if the hip-joints are affected the patient should lie flat. Great care must be exercised to avoid hyperextension at the knee-joints; the foot should be held at right angles to the leg. Once the limbs are immobilized, muscular spasm subsides and relief from pain invariably follows. After a week it is usually advisable to remove the supports daily and to apply gentle massage and cautious passive movements in order to avoid stiffness. With this one must be content until the acute symptoms have subsided, when treatment by dry air baths, massage, and active movements may be instituted.

In the late stages of the disease little or no activity is present, and we are confronted with the mechanical disabilities resulting from the ravages of an affection now almost extinct. If the joints have been allowed to become fixed by fibrous tissue their mobility must be restored by graduated manipulation. In the case of the lower limbs, however, this process is useless unless the weight of the body be subsequently transmitted through callipers from pelvis to ground. Various appliances have been devised for this purpose, and may incorporate an adjustable extension for the knee-joint. By their use the patient is enabled to walk with little or no pain, and the previously atrophied muscles rapidly regain their lost bulk and tone.

Manipulation.—This is an essential adjunct to the mechanical treatment in all save the acute stage. It must be borne in mind that pain and swelling in a joint are not necessarily signs of active disease, but commonly result from the irritating action of adhesions. It is, in fact, remarkable how soon symptoms subside after the affected joints are moved with rupture of these bands. Patients apparently hopelessly bedridden are restored to relatively painless activity by a procedure which is still regarded by many as fraught with danger. Actually, instead of lighting up the disease by forced movements, the very reverse takes place, provided, of course, that the manipulation is carried out by those versed in its technique and aware of its dangers.

The ground gained by these procedures must not be lost by inattention to the details of after-treatment. It is essential that the increased range of movement be preserved, and this is best attained by encouraging active movements, which, in certain joints, may be aided by taking advantage of the inertia of a weight tied to the distal end of the limb. All these exercises must be watched and controlled by a masseuse, on whom the onus of producing a cure rests almost as heavily as on the physician.

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RAPIDITY OF HEALING OF A GASTRIC ULCER.

BY

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(*With Special Plate.*)

THE following case is worthy of publication in the light of the recent discussion with regard to the rapidity of healing of a gastric ulcer under intensive alkali treatment.

A shop assistant, aged 24, was admitted to Louth Hospital on November 23rd, 1928. His story was the typical one of pain after food, on and off, for over a year. He had recently become progressively worse, and at the time of admission stated that he had not been free from pain during the preceding ten days. He was emaciated, weighing only 7 st.—his usual weight being about 9½ st. He was tender on palpation in the epigastric region, and presented the general appearance of having suffered a good deal.

The radiograph taken the day after admission (Fig. 1) shows a large ulcer on the lesser curvature of the stomach. He was put on a rigorous diet (Sippy[1]), combined with intensive alkali treatment as described by Professor MacLean.[2] Under treatment he improved rapidly. In about three days he was free from pain, but tenderness persisted for about three weeks.

A second plate was taken a little over a month later, and this (Fig. 2) shows that the crater is rapidly filling up.

A third plate, taken one month later, shows that the lesser curvature of the stomach has almost regained its normal contour.

The patient now enjoys absolute freedom from pain, can take normal diet, and his weight has increased to 9 st. 7 lb.

Here we have a large ulcer which has rapidly been brought into a quiescent state; I shall not at such an early date say healed. It illustrates the fact that large ulcers can be rapidly brought into a healing condition under intensive alkali therapy; but in my opinion such ulcers are not of a deep or penetrating variety. I agree with Barclay[3] that it is impossible to tell from a radiograph whether an ulcer is of a penetrating variety or not; much of the appearance of penetration is due to heaping of the gastric mucosa combined with surrounding inflammatory exudate. The extent of the disease can only be judged in such cases by correlating the radiographic appearances with the actual clinical symptoms and signs.

I take it that the cases described by Professor MacLean which rapidly responded to intensive alkali treatment were of this nature. At the same time I agree with Lord Moynihan[4] that real penetrating ulcers would not thus rapidly disappear in a month or so.

Intensive alkali treatment combined with dieting and rest certainly does give relief in cases of early or shallow ulceration, but in the case of large penetrating ulcers surgical intervention is still the only hope of cure.

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COEXISTENCE OF LYMPHADENOMA AND TUBERCULOSIS.

BY

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(*With Special Plate.*)

THE possibility of lymphadenoma and tuberculosis coexisting is well recognized. Ewing has pointed out that tuberculosis follows in the wake of lymphadenoma, and Ziegler estimated that 20 per cent. of these patients died of miliary tuberculosis. It has, indeed, been held that the two diseases are identical. Sternberg first put forward the view that Hodgkin's disease was a form of tuberculosis, due, probably, to infection with an attenuated form of the tubercle bacillus. Clinically, cases occur in which the two diseases are almost indistinguishable. In the morbid histology of tuberculous adenitis a type is recognized without definite giant cell systems and in which endothelial hyperplasia is the characteristic feature. It is well known that an endothelial hyperplasia may be the sole feature of early lymphadenoma, a point which is emphasized by Christian and Warthin. Even Andrewes, though he denies the identity of the two diseases, considers it is difficult to distinguish atypical lymphadenoma from a typical tuberculosis.

We do not intend to lay any great stress on this view, but the occurrence of tuberculosis in cases of Hodgkin's disease is of great interest, since both may present lesions which are difficult to allocate. This is particularly so since there occur in lymphadenomatous glands in the late stages certain yellowish-white areas which are referred to by Ewing as "necrotic foci" and by Longcope as "areas of necrosis." The difficulty arises in distinguishing them from areas of caseation, and the question may be asked

whether these necrotic foci are really due to a mixed infection with the tubercle bacillus, or whether there is in lymphadenoma a type of "caseation" similar in certain aspects but differing in others. This latter view is of importance since, if this is so, the analogy with other infective granulomata like syphilis, tubercle, and actinomycosis becomes more striking, for in all these conditions we have alteration of the normal structures by endothelial and lymphoid tissue with the presence of giant cells, followed later on by "caseation" and by sclerosis.

The following case of coexistent Hodgkin's disease and tuberculosis is of interest since these necrotic foci were present in the glands.

A man, aged 30, was admitted under the care of one of us in the General Hospital, Madras, on August 28th, 1927, with a history of enlargement of the glands in the neck, pectoral region, and axilla of five months' duration. He was sent to the surgical ward for excision of a gland for pathological report. The report was "lymphadenoma," and the patient was subsequently readmitted to the medical wards on September 11th. He was then complaining of difficulty in swallowing, possibly from pressure of the glands in the neck. The glands in the parotid region were also enlarged. There was, however, no dyspnoea, loss of voice, or enlargement of the superficial veins, or any feature suggestive of a mediastinal growth. The chest was, however, asymmetrical and there was slight fullness in the second and third interspaces on the left side. From the first a dullness on percussion of both sides of the chest was noticed and on auscultation a few rales could be heard. The heart showed a slight softening of the first sound in the aortic and pulmonary areas. Throughout his stay in hospital there was a remittent pyrexia, with, however, no periods of apyrexia. Puncture fluid from one of the glands showed marked eosinophilia. The Wassermann reaction was negative.

The blood on admission showed 1,720,000 red blood cells per c.mm., 58,000 white corpuscles, haemoglobin 56 per cent. The differential count revealed polymorphonuclears 88 per cent.; lymphocytes 8 per cent., myelocytes 3 per cent., eosinophils 1 per cent. The second examination of the blood showed 3,748,000 red blood cells, 56,250 white corpuscles; with polymorphonuclears forming 86 per cent., myelocytes 3 per cent., lymphocytes 9 per cent., and eosinophils 1 per cent. Poikilocytosis was a well-marked feature. Biochemical investigations indicated a blood calcium figure of 8.6 mg. in 100 c.cm., and blood fragility was complete in 0.4 per cent. of saline; van den Bergh's test gave a direct negative and an indirect weak positive reaction. The blood pressure was 110 mm. systolic and 70 mm. diastolic. The patient was submitted to a course of deep x-ray therapy, under which the leucocyte count came down to 7,800, and the haemoglobin to 42 per cent. The patient died after a fit on September 13th.

The necropsy showed marked enlargement of the anterior and posterior chains of the glands in the neck. There was a swelling in the middle line of the neck, which on incision was found to be an abscess of the size of an orange, with a well-defined wall; it contained yellow pus. There were a number of smaller glands in the axilla, which were discrete and slightly movable; a group of glands could be felt also in the groin. Obliterating pleural adhesions were present on the right side, while in the left pleural cavity there was an empyema pushing down the diaphragm and causing a pressure collapse of the base of the left lung, which was adherent above, completely shutting off the empyema. There was some oedema of the tissues of the superior mediastinum. A lump of matted glands formed a large swelling surrounding the bronchi and the aortic arch, filling up the shoulder girdle, and extending behind the heart. There was no infiltration of the pericardium. The left lung was oedematous at the apex, the base was collapsed; the pleura was thickened and adherent, shutting off the empyema. The tracheo-bronchial glands were enlarged and pigmented; they showed foci of caseation. The right lung showed pleural tubercles near the hilum suggestive of lymphatic spread. Microscopically, thickening of the pleura was found, and miliary tubercles were seen. The heart showed brown atrophy. In the liver there were a few miliary tubercles, underneath the capsule as well as inside the organ; there was also acute congestion. The spleen was not enlarged, but was smaller than normal; there were white opaque areas of variable size which, on microscopical examination, proved to be caseating and conglomerate tubercles, with well-developed giant cell systems and commencing caseation. There was marked fibrosis. Both kidneys contained pyaemic abscesses and a few retention cysts. The other organs were healthy, except that the peri-pancreatic glands were enlarged. The periosteum of the right clavicle was infiltrated, and the marrow of the bone itself was involved.

The glands on section presented those curious yellowish-white opaque flecks which resembled tuberculous caseous material, but were rather more firm, more opaque, and discrete; they stood out prominently from the surrounding tissue. Some glands showed a number of these tiny opaque flecks which were not fused together like tuberculous caseous material. Other glands showed marked enlargement, and on section no necrotic areas were found, but there were typical gelatinous areas with strands of fibrous tissue running into the gland from the capsule. There was some peri-adenitis in the intrathoracic group, but very little in the smaller glands.

Microscopically the glands that were uniformly enlarged showed well-marked fibrous transformation; here and there a few groups of lymphoid cells were seen, but the differentiation of the gland into lymph sinuses and follicles was entirely lost. There was, however, no diffuse endotheliosis, but well-marked fibrosis of the sclerosing type, with fully formed fibrous tissue. The lymphoid accumulations between these strands were found to be composed of a few endothelial cells, with rather pale large nuclei arranged in a cluster in the centre, so that the protoplasm formed only a scanty rim round them—a picture which Andrewes has defined as quite distinct from that of tuberculous lymphadenitis. The nuclei were mostly oval, with a ring of distinct nuclear membrane, and one or two dark chromatin nodes. Eosinophils were very scanty in the sclerosed glands, but numerous in the soft ones. The lymphoid cells were of the large and small lymphocytic type.

The presence of myelocytes in the blood is interesting and unusual. It will be remembered that the earlier authors have described cases of lymphadenoma with a myelocytic blood picture, and Cohnheim first applied to it the term "pseudo-leukaemia," assuming that it was a form in which the leukaemic blood picture was absent. Rolleston holds that the presence of leukaemic blood changes would now, with our modern accuracy of haematological methods, rule out a diagnosis of Hodgkin's disease. But in this undoubted case of Hodgkin's disease the presence of a few myelocytes indicates response of the bone marrow, showing that the process is not very far removed from a real leukaemic hyperplasia. It may be added that Fabian has recorded a few myelocytes in cases of Hodgkin's disease, but they were too few to estimate. The presence of myelocytes may indicate involvement of the bone marrow, since undoubted involvement of the clavicle was found in the case mentioned above.

The hyperleucocytosis of 56 per cent. is evidently a reaction to sepsis from the empyema and abscess in the gland. The polynuclear leucocytosis of Hodgkin's disease is both absolute and relative, but the counts seldom exceed 20,000.

The occurrence of an abscess in one of the glands in the neck is unusual, and raises the question whether these necrotic foci are the starting point of the abscesses. This, again, may suggest the view that lymphadenoma is a secondary infection—a view which is emphasized by Horder—an infection supervening on some previous chronic lymphadenitis.

With regard to the eosinophilia, Longcope holds that it is most common where there are necroses in the glands. Bunting, on the other hand, contends that eosinophils are low in the blood in the active stages of the disease, seeing that they all emigrate into the lymphatic glands, the destruction of the lymphocytes there apparently serving as a stimulus. In this case it is noticeable that necrosis in the glands was well marked, but the eosinophilia was slight.

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OBSERVATIONS ON TWENTY-THREE CASES OF CARCINOMA OF THE BLADDER TREATED BY RADIUM.

BY

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THE consensus of opinion on the Continent appears to be that malignant disease of the genito-urinary organs, apart from the penis, reacts unfavourably to radium treatment. In the majority of cases the method of surface application has been adopted in preference to what is termed the surgery of access.

Research on the treatment of bladder carcinoma by buried radium needles has been carried out by me at St. Peter's Hospital since 1925. Twenty-three cases of inoperable carcinoma have been so treated during this period, and kept under careful observation.

The figures which are given in this short communication might produce a misleading impression of the value of irradiation without a study of the clinical aspects of each case both before and after treatment. So ill were some of the patients when first examined that death appeared

imminent. In two cases blood transfusion had to be resorted to in order that the patients might be kept alive during the operation of suprapubic cystotomy. The bladder haemorrhage was controlled within a few hours of the onset of the radium exposure.

It is necessary to stress the point that all the twenty-three patients, before treatment was commenced, were profoundly ill from either sepsis or profuse haemorrhage.

Three of these patients died in hospital within one month of irradiation. The remainder, twenty, were discharged from hospital in fair health, with their suprapubic wounds firmly healed, at periods ranging from three to five weeks.

One patient survived three years, and one two years.

Two patients treated in 1927 are alive, one of whom shows no recurrence of the growth, the other writing to say he is in poor health. A third patient is dead.

The remaining fifteen cases have been treated during the year 1928. Five have died since discharge from hospital. Ten are in fair health, and continue under observation.

In all cases of carcinoma of the bladder haemorrhage can be controlled by irradiation. In the presence of severe cystitis the prognosis is always bad.

The suprapubic wounds, without exception, have healed rapidly. In those cases where sepsis has been absent both general and local conditions have improved for about six months after irradiation. Improvement after this period has not been maintained apart from one or two exceptional cases.

One case of carcinoma of the female urethra invading the bladder, treated twelve months ago, remains a clinical cure. Previous to treatment there was complete incontinence of urine. Micturition is now normal.

The radium technique which has been adopted is as follows.

First a suprapubic cystotomy is performed, and the extent of the growth determined by palpation. Five milligrams of the element, in platinum tubes 25 mm. in length and with a screenage of 0.5 mm., are then inserted 2 cm. apart into the periphery of the tumour on its mucous surface, and also on its external aspect. The tubes remain in position for twelve to twenty-four hours. Each tube is threaded with silkworm-gut, and at the termination of the period of exposure is easily withdrawn from the bladder through the suprapubic wound. The silkworm-gut is used in preference to silk on account of its strength, and less likelihood of being torn when pulled on.

The fact that improvement, both in the general state of health and also in the local condition, occurred, in practically all the cases is encouraging. Increase in weight in every patient was noted for six months after the radium exposure.

OVARIOTOMY FOR UNUSUALLY LARGE OVARIAN CYST IN A WOMAN OF 73: RECOVERY.

BY

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CARDIFF.

ATTENTION was drawn to the comparative rarity of the operation of ovariotomy in women over 70 years of age by Leslie Williams (see the *British Medical Journal* of April 13th, page 679), who cites two personal cases, bringing the total of recorded cases up to 155.

Very large ovarian cysts are not now often met with, for the simple reason that surgical facilities exist to-day for their removal before they attain to the size pictured in the textbooks of a generation ago. Now and again a case appears where the patient has been content to put up with things and live with her cyst, undismayed by its increasing size, even although advice for its surgical removal has been given. The following case is therefore recorded both on account of the rarity already mentioned and also because of the unusual size of the ovarian cyst removed.

The patient, who was 73 years of age, was seen by me on October 27th, 1927, in consultation with her family doctor, with a view to advising upon operation for an enormous swelling of the abdomen, thought to be caused by an ovarian cyst.

The patient was a woman of small stature, very cheerful and intelligent. She had had several children, and the menopause had occurred when she was about 50 years of age. When she was 65 she became conscious of her abdomen enlarging, but had decided not to worry about this misfortune until, eight years later, when she was 73, the swelling of the abdomen had become so great as to interfere seriously with her breathing and getting about. She then complained of abdominal and sciatic pains, fatigue and breathlessness upon exertion, palpitation, sleeplessness, constipation, and inability to hold her water.

She was lying upon her side in bed when I saw her, and when she lay upon her back she was unable to see the top of the bedrail at the foot of her bed. She was a little cyanotic, with dilated venules about the nose, was troubled with slight bronchitis, and had a small degree of oedema round the ankles. Her heart action was arrhythmic and the sounds were feeble, although the valves were competent.

Examination of the abdomen revealed an enormous dull swelling rising from the pelvis and filling the whole abdomen as far as the xiphisternum, with changing areas of resonance to percussion on either flank. The fluid thrill was easily elicited. A diagnosis of large ovarian cyst was made, and preliminary puncture and drainage was advised, to be followed at a later date by ovariotomy.

Paracentesis was performed on October 29th, 1927. On this date an area midway between the umbilicus—which was protruded—and the pubic symphysis was anaesthetized with 1 per cent. novocain, and the cyst punctured by a large trocar and cannula. A long rubber tube was then attached to the cannula and led beneath the bed into a 10-gallon zinc wash-bath, and the fluid contents, which resembled pea-soup, were thus slowly removed. The joy of the old lady increased as her abdomen diminished, and her happiness seemed complete when she raised her head and saw her toes! It was considered best to withdraw the cannula without pressing upon the cyst, in view of possible leakage when the flow had almost ceased. The 10-gallon bath was approximately half full, and upon later measurement the amount of fluid totalled nearly 40 pints.

Two weeks later she came into a nursing home, and on November 17th was operated upon for the removal of the sac. Ovariotomy was performed under chloroform and ether, attempts to introduce the needle for spinal anaesthesia having failed. Slight adhesions were encountered, but after bringing the cyst to the surface of the wound and withdrawing about ten pints of fluid which had again collected, the huge sac slipped out of the abdomen with gentle traction. Blood vessels the size of adult fingers spread over its surface from the pedicle, which was situated upon the right side. The pedicle was securely ligated and the cyst removed, the operation giving rise to no difficulty and being completed in twenty-five minutes.

The specimen was an ovarian cystadenoma, with smooth, tough, and evenly thick walls about three-eighths of an inch thick, except at the base, where there were septal remains.

The patient made an uninterrupted recovery, and left the nursing home at the end of twenty-one days, and now, at 75, enjoys very good health.

I regret that a photograph was not taken before operation, and that the weight of the cyst and its contents was not ascertained by recording the weight of the patient before paracentesis and after ovariotomy.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

TWO CASES OF OVARIOTOMY IN WOMEN AGED 84 AND 77 RESPECTIVELY.

IN view of the article by Mr. Leslie Williams in the *Journal* of April 13th, I should like to record the following two cases.

CASE I.

Mrs. X., aged 84, a patient of Dr. Mitchell of Guildford, was, on May 1st, 1918, operated on for a large ovarian cyst, the size of a full-term pregnancy. The tumour was a huge, simple cyst of the right ovary, and was removed entire without previous tapping. The patient made an uninterrupted recovery and has remained well ever since. She is now 95 years of age and in good health.

CASE II.

Miss Y., aged 77, was a patient of Dr. Cliff-Hodges of Godalming. She was a very frail old lady, crouched, and bent in her bed, and was toothless except for two old stumps. She had been an invalid for years, but had lately suffered from intestinal obstruction, which at the time of my visit had been partially relieved by enemata, and the vomiting had ceased. Her temperature was 100°, and her pulse was rapid and feeble. The abdomen was filled with a huge, irregular, tender solid tumour, which had recently been wedged into the pelvis; but Dr. Cliff-Hodges had partially dislodged it and thus to some extent relieved

the situation. She was an exceedingly bad operative risk, apart from the fact that the tumour was likely to prove malignant and inoperable. She was therefore advised that operation would be very risky and that it would be better, seeing that her obstruction had been relieved, to continue with palliative treatment. She, however, took a different view, and said that she could bear the pain no longer, and insisted on operation, whatever the risk might be.

The operation was performed on June 13th, 1928. There was much free fluid in the abdomen; the tumour was greenish-black in colour and loosely adherent to the bowels; the adhesions were separated and the tumour was found to be a large fibroid springing from the left broad ligament and twisted two complete turns on its short pedicle. The tumour was removed. A solid tumour of the right ovary, the size of an orange, was also removed.

The patient made a wonderful recovery from the operation and enjoyed very good health, and was able to get about for seven months. Since then she has been in failing health, and is now reported to be dying, with symptoms of intestinal obstruction.

Unfortunately, through some misunderstanding, the specimens were not submitted to the pathologist.

Guildford. H. B. BUTLER, F.R.C.S.Ed., Surgeon, Royal Surrey County Hospital.

ELEPHANTIASIS NEUROMATOSA.

WITH reference to the case of elephantiasis neuromatosa reported in your issue of March 30th, I beg to forward photographs of a case I came across shortly before returning home from India this year.

I was travelling from Poona to Dehra Dun, and my train had been held up for some time at a halting place just outside the station of Dholpur, when the unfortunate subject of the photograph appeared. As the train was already signalled to proceed I employed the few moments at my disposal in exposing two films from the carriage door.

The affection was apparently limited to the right shoulder, arm, and hand—it is unlikely that any other such source of income would have been hidden, if present—otherwise the subject appeared to be no different from his mendicant confreres. It is interesting to note how the forearm has escaped in comparison with the rest of the limb, and to compare the girth of the calves of the legs with that of the two massive fingers; presumably these are the index and middle fingers, with the ring finger hidden.

The affected hand was carried on the top of the head during "business hours," partly, no doubt, on account of the weight, and partly for the more advantageous display of the abnormality; on the departure of the train, however, it was allowed to fall to the side. The presence of voluntary movement of the joints may be seen by comparing the two views.

On my return journey, a few days later, I was disappointed to find the lad absent from his post, and my endeavours to trace him, for the purpose of fuller investigation, proved fruitless. It is hoped, however, that the photographs alone may be of interest, and it is extremely doubtful whether, if it had been advised, he would have consented to the loss of the limb, the value of which may be gauged by the weighty condition of the small pocket on his shirt, which pocket contained, presumably, the takings from that one train only.

Radiological Department, Royal Herbert Hospital, Woolwich. R. BOULTON MYLES, Major R.A.M.C.

CONGENITAL ABSENCE OF THE STERNO-COSTAL PORTION OF THE PECTORALIS MAJOR MUSCLE.

CONGENITAL absence of the pectoralis major muscle is rare enough to lend interest to the case shown in the accompanying photograph. The patient is a boy, aged 7, with absence of the greater part of the sterno-costal portion of the pectoralis major muscle of the *left* side. The sterno-clavicular portion of the muscle and the portion taking its origin from the first and second ribs are present, the lower border of the muscle being in line with the upper border of the second rib when the arm is extended outwards. The digitations of the serratus magnus muscle are by no means marked, but this condition is probably due to insufficient development. An article which appeared in the *British Medical Journal* on July 10th, 1926 (p. 59), records a similar case and is furnished with a useful bibliography.

St. Leonards-on-Sea. A. G. NEWELL, M.D., D.P.H.

A CASE OF PSEUDO-HERMAPHRODITISM.

IT is unusual for it to be discovered, as in the case reported below, that a woman has been brought up as a man; more often the position is reversed—a man is brought up as a woman. Economically, it was a serious decision to have to make, but there appeared to be no other course, and the result has been to give comfort to the patient where previously there was distress.

In male attire, the patient gave her age as 17 years. As stated above, she had been brought up and educated as a male, in humble circumstances in the country. Latterly she had earned her living as the boy employed to assist the driver of a wagon for the distribution of petrol. To show that she had done her work well it may be recorded that on one occasion she won a prize at a show for the best turned out lorry; on another occasion she was left, snow-bound, in charge of the wagon on a lonely moor for three nights, while the driver went to seek help. That she was a woman was not suspected. She found it inconvenient to have to sit to make water, but it was not until she began to menstruate at the age of 17 that she sought the aid of the district nurse.

Her doctor sent her to see me because he considered that she was a woman, and that it would be necessary to stop her from living as a man. The skin of the face was smooth, and the voice was that of a woman. The figure was boyish. The breasts were those of a woman and well formed. The pubic hair was of the female distribution. The clitoris was large, and of the size of the penis of a baby. The labia majora were fused in a median raphé, giving to the parts an appearance of a scrotum devoid of testes. At the anterior end of the bag was an orifice through which urine was passed with difficulty.

It was decided that since, physically and psychologically, the patient was more woman than man, it would be inadvisable to permit her to remain in male attire to continue living as a man. Accordingly, having entered hospital in male attire, she was provided with female bed attire and admitted as a woman to a female ward. Her Christian name was changed to the nearest feminine equivalent, but no change could be made in the particulars of the birth registration.

Under general anaesthesia the median raphé was divided, and the edges were sutured to form labia. The urethra opened high up in a tiny vagina, which admitted the end of the little finger. In the vault was a rudimentary cervix. By combined rectal and abdominal examination a rudimentary uterus was palpated, and small ovaries, as they were taken to be.

Since discharge from hospital the patient has been employed as a female domestic servant. She has menstruated regularly for three days at a time. She says that she is much happier living as a woman. Not uncomely, she is fond of wearing becoming clothes, and looks and behaves like a woman.

JAMES RIDDELL, M.D., F.R.C.S.Ed., Honorary Assistant Surgeon, South Devon and East Cornwall Hospital, Plymouth.

Reviews.

SURGICAL DIAGNOSIS.

A Text-Book of Surgical Diagnosis,[1] edited by Mr. A. J. WALTON with the assistance of thirty-six collaborators, is written for both the general practitioner and the surgeon, and aims at improving bedside diagnosis rather than stimulating test-tube research. It includes, however, a well-balanced chapter on the diagnostic value of laboratory methods, in which Dr. Panton describes the tests in use and assesses their significance. As in most books by a number of separate contributors, there is some overlapping, and occasionally it happens—for example, in the passages dealing with rodent ulcer—that when several authors treat of the same disease they do not say the same thing. The contributors, to all of whom Mr. Walton states he gave a free hand, approach their subject in various ways, some through diseases, some through symptoms, others through pathology. The majority of contributors have taken the first way, but the second has much to commend it. To use a book like this for reference it is often necessary to make a diagnosis before finding the section in which the method of diagnosis is described. It is difficult to see how the variety of approaches could have been avoided without altering the plan of the work and converting it into an index of symptoms. None the less, more might have been done on the lines of Chapter xxiv, in which Messrs. Gordon-Taylor and Hudson discuss lesions of the intestines by way of the symptoms they produce.

Most of the chapters are excellent, and will repay careful study. Mr. Harry Platt writes admirably on injuries and diseases of nerves, with just the right mixture of anatomy, physiology, well-chosen diagrams, and bibliography. Spinal cord lesions are successfully handled by Mr. Jefferson, the brain and skull by Drs. Riddoch and Russell Brain. Mr. Lockhart-Mummery's twenty-two pages on the rectum and anus contain the wisdom of a ripe experience. His remarks on history-taking and the examination of the patient are particularly interesting. He does not mention polyp as a cause of rectal prolapse, and dismisses cancer of the rectum in a page and a half, but his article is none the less admirable. Recent developments find a place, and there are *x*-ray photographs showing the use of lipiodol in the diagnosis of thoracic and spinal conditions, and of sodium tetraiodophenolphthalein in gall-bladder disease. Much of the work has devolved upon the editor, and he is responsible for seven of the fifty-two chapters. He has mainly concerned himself with the abdomen, but chapters in this section have also been contributed by Messrs. Cope, Wilkie, Gordon-Taylor, and Perrin. The book covers all the ordinary special subjects, and even includes separate chapters on tropical diseases, gynaecology, and glanders. Mr. Victor Bonney, Mr. Sydney Macdonald, and Mr. Norman Patterson write on their own specialties, and bones and joints are considered by Messrs. Fairbank, Bankart, Driberg, Milne, and Timbrell Fisher.

Within its self-imposed limits the book is sound and authoritative. On the whole it is well produced, but there is only one index to the two volumes and misprints are rather frequent. The illustrations, of which there are 570, all bear on the art of diagnosis.

GENERAL ANAESTHESIA.

IT is interesting to compare two standard textbooks on anaesthesia, one originating in this country, the other of transatlantic origin, and the opportunity has arisen by the recent appearance of STUART ROSS and FAIRLIE'S *Handbook of Anaesthetics*[2] and FLAGG'S *Art of Anaesthesia*,[3] the former in its third, the latter in its fourth edition.

Complete comparison is impossible, since the British volume is much smaller than the American, and naturally does not go so deeply into the subject; but allowing for this fact, one is able to make some comparison between the teaching in the two countries. On the whole, there appears to be a tendency in America to use elaborate apparatus and dosimetric methods to a larger extent than in this country. In England private surgical practice is conducted mostly in nursing homes of small capacity and in private houses. The anaesthetist is therefore compelled to work with apparatus that is easily carried about, and most apparatus used with dosimetric methods is bulky, heavy, delicate, and transportable with difficulty. In America, on the other hand, most surgical operations are performed in large hospitals and clinics, and apparatus need not be moved about to anything like the same extent. The student in this country has therefore to be instructed in methods and with apparatus of the simpler type, much of his teaching necessitating only the use of "the rag and bottle." This method, however, is absolutely necessary to the beginner, and no one can hope to become a specialist in the art of anaesthesia without proper grounding in the simpler methods of administering the various anaesthetics.

In both volumes a prominent place is given to the value of nitrous oxide-oxygen anaesthesia. It would appear, however, that some American surgeons are willing to work under conditions of semi-relaxation of the abdominal muscles which would draw protests from most British surgeons, and it is at least questionable whether the risks of ether anaesthesia are greater than those of nitrous oxide-oxygen anaesthesia pushed to the extreme limit. No doubt in the hands of experts a very great deal can be done with nitrous oxide-oxygen alone, but many operations have to be carried out with the aid of average anaesthetists who do not devote a large portion of their time to anaesthetic work, and in their hands ether is safer than nitrous oxide-oxygen pushed to the limit. Both volumes emphasize the dangers of chloroform, but agree that it has its uses in special cases. The use of ethylene is described in both volumes, and Flagg's account stresses the risks of explosion in the presence of any naked flame, electric spark, or even static sparks, when the drug is used with oxygen. On the whole both authorities agree that ethylene has a definite value in selected cases, and that it should only be used where the operation is to be of short duration. Intratracheal methods of administration are described in both volumes. There is not much difference in the methods or apparatus advocated by the two schools. As regards preliminary medication with drugs, such as atropine and morphine, the teaching of both schools is much the same, though the British authors condemn without reservation the use of morphine preliminary to the administration of chloroform. Local and regional anaesthesia are dealt with in both volumes somewhat briefly, but no mention of sacral anaesthesia is made in the American volume. It is impossible adequately to deal with local and regional anaesthesia in a short space, and in our opinion students should be referred to the larger textbooks for the minutiae of technique. Neither volume mentions the technique of local and regional anaesthesia for operations on the teeth.

The physiology of anaesthesia, shock, anoxaemia, etc., is well explained in each of these books, and due consideration is given to the preparation of the patient. Curiously enough, synergistic analgesia is mentioned in the English but not in the American volume, though the method is used mainly in America. The illustrations in both volumes are well chosen, but naturally the American volume, being larger, has many more. In our opinion both may be recommended to the student, the British one to the beginner as inculcating first principles, the other to the more advanced student as representing the teaching of the American school.

[1] *A Text-Book of Surgical Diagnosis.* Edited by A. J. Walton, M.S., F.R.C.S., B.Sc., M.B. In two volumes. London: E. Arnold. 1928. (Demy 8vo, pp. 1121; 570 figures. 63s. net the two volumes.)

[2] *Handbook of Anaesthetics.* By J. Stuart Ross, M.B., Ch.B., F.R.C.S.E., and H. P. Fairlie, M.D. With an introduction by the late Hy. Alexis Thomson, C.M.G., M.D., F.R.C.S.E. Third edition. Edinburgh: E. and S. Livingstone. 1929. (Cr. 8vo, pp. xvi + 339; 66 figures. 8s. 6d. net.)

[3] *The Art of Anaesthesia.* By Paluel J. Flagg, M.D. Fourth edition, revised. London: J. B. Lippincott Company. 1928. (Med. 8vo, pp. xviii + 384; 135 figures. 21s. net.)

KAUFMANN'S PATHOLOGICAL ANATOMY.

KAUFMANN'S Special Pathological Anatomy, a translation[4] of which has been prepared by Dr. STANLEY REIMANN, director of the Research Institute of the Lankenau Hospital, Philadelphia, is one of the best known and most widely valued works on that subject. It was, apparently, intended primarily as a textbook for students, but from the comprehensive treatment of the subject, the inclusion of every type of lesion revealed by an exhaustive study of the literature, and from the author's concise and orderly exposition, the book has obtained a world-wide reputation as a work of reference for all who are interested in pathological anatomy. Its classified bibliography alone, occupying 225 large pages of closely printed references, is in itself a work of great value to those requiring information on the history and recent advances in any particular branch of the subject. The original, being in German, is probably not familiar to many English readers; Dr. Reimann's translation will now bring it within the reach of all. The translation appears to adhere closely to the original text, and Dr. Reimann may be congratulated on the completion of what must have been an arduous task. The two volumes of the eighth German edition have been expanded into three volumes, chiefly through the adoption of one uniform type, the small type extensively used in the original being dispensed with. The inclusion of a large number of new illustrations also consumes considerable space; these are all good, and improve the work, although no criticism is to be made of Kaufmann's figures, which have the special merit of having been drawn by himself. The translator has thought it desirable to add paragraphs on some recent advances. Notes on subacute bacterial endocarditis, on the effects of short-circuiting the blood stream from an artery to a vein, and on tularaemia, have been inserted. Several pages are devoted to a discussion of the complicated histological changes met with in goitre; the translator considers that it would simplify matters to regard the enlargement as occurring in stages—a stage of hypertrophy or change to the cylindrical form of cell, of hyperplasia or cell proliferation with reduction of the lumina, and a colloid stage in which the cells undergo atrophy leaving larger or smaller colloid vesicles. Combinations of these stages would account for the complex appearances. Reference is made to the extreme difficulty experienced in some cases in making a histological diagnosis of carcinoma of the thyroid; it would seem that in some instances the only certain criterion of malignancy may be the invasion of blood vessels and tumour thrombosis, and that all other microscopical pictures, no matter how atypical, may be those of a benign growth. Mention is made of the recent explanation of the greater liability of the right lobe of the liver to amoebic abscesses; it is supposed that the streams from the splenic and superior mesenteric veins retain their relative positions, without intermingling, in passing through the portal vein, "analogous to the condition of the Mississippi below the point where it is joined by the Missouri." This American touch is exhibited to some extent also in the general orthography of the work; such forms as fetus, edema, and amebic are familiar to, and to some extent adopted by, English writers, but it is doubtful whether diverticuli and diverticulae will prove acceptable as forms of the plural of diverticulum. Mallory's view is mentioned, that haemachromatosis and bronzed diabetes are caused by copper-poisoning, from metal derived from cooking utensils; and a note on scarlet fever expresses some doubt in regard to a streptococcus as the cause of the disease, and to the skin test, antitoxin, and immunization. Paragraphs added are in every case noted as additions, and, not being numerous, in no way alter the general character of the work. It will be noticed that the title differs from that of the original, but the latter would seem to be the more appropriate, since the work is essentially one on special pathological anatomy. The three handsome volumes reflect great credit upon the publishers.

[4] *Pathology for Students and Practitioners.* By Dr. Edward Kaufmann. Translated by Stanley P. Reimann, M.D. In three volumes. London: H. K. Lewis and Co., Ltd. 1929. (Sup. roy. 8vo, pp. 2452 + lxii; 1072 figures. £6 6s. net the three volumes.)

PROTOZOOLOGY.

DR. J. G. THOMSON and Dr. A. ROBERTSON, director and lecturer respectively in the department of protozoology of the London School of Hygiene and Tropical Medicine, have written a book on *Protozoology*[5] which is admirably adapted to the needs of doctors engaged in the practice of tropical medicine and students preparing for examination in this subject. The authors present brief and clear descriptions of the protozoal parasites of man, together with an account of the pathology of the lesions they produce. The volume opens with a general introduction on the structure and nature of the cell, and on the classification of the protozoa generally. Descriptions follow of the malarial parasites of man, coccidia, amoebae, the human flagellates, including leishmania and trypanosomes, and the ciliates. In each case the parasite, its biology, transmission, and host reactions, are carefully and clearly explained, the authors holding that an accurate conception of the parasitic nature of an organism is attainable only by reference to the tissue and other reactions of the host. Chapters are included on examination of the blood and faeces and the interpretation of such examinations, on various organisms of a vegetable or doubtful nature (for example, spirochaetes and rhinosporidium), on parasites in other mammals and in birds, and on technique, derivations, and definitions. Several good books on protozoology have appeared in English within the past few years, but most of them have been too large for the student. The present volume, while making no pretence at being exhaustive or encyclopaedic, is probably the most suitable that has yet been published for the ordinary medical man in the tropics. It contains all the information he is likely to require in everyday practice, and, in addition, descriptions of the pathology of the protozoal diseases which he could otherwise obtain only from a study of a number of large textbooks and monographs. The volume is profusely illustrated with drawings and photomicrographs, and with four excellent coloured plates.

[5] *Protozoology.* By John Gordon Thomson, M.B., Ch.B., and Andrew Robertson, M.B., Ch.B. London: Baillière, Tindall and Cox. 1929. (Cr. 4to, pp. xvi + 376; 220 figures, 4 plates. 30s. net.)

THE CONCISE OXFORD DICTIONARY.

IT is now nearly eighteen years since we first commended to the notice of our readers the *Concise Oxford Dictionary of Current English*,[6] prepared for everyday purposes by H. W. and F. G. FOWLER, and founded by them on the principles of the great *Oxford English Dictionary*, at that time four-fifths completed. Distinguishing features of this work, whose merits have been so widely recognized, were the large amount of space given to common words and colloquialisms, the copious use of illustrative sentences, and the brief treatment of uncommon words or those better fitted for the encyclopaedia than the dictionary. In compiling it the authors kept closely to the idea that a dictionary must be concerned primarily with words and phrases as such, and not, except so far as is needed to ensure their right treatment in speech, with the things those words and phrases stand for. The object they set before themselves was to present as vivid a picture as the small dictionary could be made to give of the English that was being spoken and written at the time. By general consent the outcome of their labours was, for its size, by far the best English dictionary ever produced—full, accurate, informative, and judicious in its choice of technical terms. In the intervening years the game of word-coining and phrase-making went on apace, so that many additions and some alterations became necessary if the book was to preserve its character as a dictionary of current English. Francis George Fowler died in 1918, and the work of revision has been carried on by his brother. As the surviving author remarks in his preface, a living language does not remain unchanged through twenty years and a great war: "Our picture has needed, and received, a good deal of retouching

[6] *The Concise Oxford Dictionary of Current English.* Adapted by H. W. Fowler and F. G. Fowler from the *Oxford Dictionary.* New edition; revised by H. W. Fowler. Oxford: The Clarendon Press. 1929. (Cr. 8vo, pp. 1444 + xvi. 7s. 6d. net; thin paper 10s. 6d.)

before being again exhibited in public, and its owners, the Clarendon Press, have thought it worthy of a slightly larger and more handsome frame." Thus, while the aims and methods of the dictionary remain what they were, detailed changes in the text are very numerous, and the general format has been modified in several respects. Some 400 pages have been added, but the columns are narrower, there are fewer lines to the page, and a pleasanter and more legible type is used. The short list of those to whom Mr. H. W. Fowler makes acknowledgement for special help in the preparation of the second edition includes the name of our late Editor. We know that Sir Dawson Williams's appreciation of the "*C.O.D.*" survived the test of sixteen years' daily use, and a cursory examination of the new edition assures us that it would have met with his critical approval. A fresh lease of popularity can be predicted for this admirable work of reference.

BOOKS FOR NURSES.

MR. COMYNS BERKELEY'S well-known book on *Gynaecology for Nurses and Gynaecological Nursing*,[7] now in its fifth edition, is a complete and well-written volume that has proved of the greatest service to members of the nursing profession ever since its first edition appeared nearly twenty years ago. It is divided into six parts. The first five of these deal with the anatomy and physiology of the female organs, with pregnancy, with parturition, and with the diseases of the reproductive tract. The sixth part, extending to some 160 pages, is devoted to gynaecological nursing. The book is thoroughly up to date, well illustrated, and well turned out. It may be warmly recommended to the attention of all nurses in search of instruction in the subjects with which it deals. In the volume by Miss L. OAKES, entitled *Essentials of Gynaecology for Nurses*,[8] is set out a brief course of questions and answers for examination candidates that might well be used as a test of their knowledge by nurses who have been through Mr. Comyns Berkeley's more elaborate and informative textbook. Miss Oakes has written her book primarily for the general nurse, and chiefly as an aid in the preparation for the State examinations. It takes the form of questions and answers throughout; and, in addition, nine test papers are set, the answers to the questions in them being given at the end of the volume. The book is clearly written, and should prove of real value to nurses studying gynaecology. A further example of the application of the method of question and answer in the teaching of nurses is provided by an American volume from the School of Nursing at St. John's Hospital, Cleveland, Ohio: *Questions and Answers for Nurses*,[9] by Miss I. V. KELLEY. The first few pages of this book set out the recent improvements in the style and method of examinations that take the form of what are described as "objective (new type) examination questions," of the "recall type," in which the examinee may complete a skeleton statement, or make a pertinent statement about a word presented to her, and of the "recognition type." Here the examinee is offered complex statements which must be identified as true or false; or must choose the correct answer from the number offered to her; or must set the correct answer side by side with the appropriate question (much as one may have to do in the more elaborate acrostics or cross-word puzzles); or must identify the corresponding members in the analogies that may be drawn in anatomy, bacteriology, and so forth. The bulk of the volume is more commonplace, and is devoted to the "essay (old type) examination questions" of the old-fashioned sort. This is designed to enable a nurse to review all the subjects in the curriculum of the various schools of nursing, and appears to fulfil its purpose in a tolerably satisfactory fashion. The third edition of Dr. H. C. RUTHERFORD DARLING'S *Surgical Nursing and After-Treatment*[10] gives an excellent account of the subject with which it deals, and is intended for the use not of nurses only, but also for students and dressers and the junior members of the medical profession. The first half of the book deals with general surgical nursing, the second half with regional surgical nursing. There is a great deal of information in Dr. Darling's book, which is well written and adequately illustrated; we wish it the success it deserves. *Nutrition in Health and Disease for Nurses*,[11] by Drs. LENNA F. COOPER and EDITH M. BARBER and Miss HELEN S. MITCHELL, gives a full account of the principles of nutrition and of the details of diet in disease. It is divided into four parts, treating respectively of the principles of nutrition, the selection of foods, diet in disease, and cooking for the sick and convalescent, at approximately equal length. There is a great amount of up-to-date information in this volume, and it should appeal to a far wider audience than the nursing profession; it may be recommended also to physiologists, medical men, and all who are interested in the principles and details of scientific feeding as it is understood in America. The fourth edition of Dr. RUTHERFORD DARLING'S *Elementary Hygiene for Nurses*[12] gives a soundly written account of the subject that may well be placed in the hands of anyone seeking an introduction to the principles of hygiene in house and town. It has a number of excellent illustrations, and the author has adopted what may be called English standards in writing it. *Applied Bacteriology for Nurses*,[13] by JEAN WHITE, endeavours to supply nurses with such practical knowledge of bacteriology as may be of service to them in their daily round, and outlines for them a scheme of laboratory work. It should be useful to such nurses as have the opportunity to study the subject in any but a superficial manner. Dr. I. J. SANDS'S book on *Nervous and Mental Diseases for Nurses*[14] gives a short and sufficient account of the various forms of mental disease and neurological disorders that nurses may meet with in their patients, and sets out the ways in which the nurse may help the medical man in their treatment. It can be recommended to those readers for whom it is designed.

NOTES ON BOOKS.

THE *Manual of Otology*[15] by Dr. GORHAM BACON, with whom Dr. T. L. SAUNDERS is now associated in the preparation of the eighth edition, is perhaps less known and appreciated in this country than it deserves. The number of editions issued is sufficient evidence of its success in America. It is a book which presents the study of otology in a sane, balanced, and practical fashion. The manner in which it is written, and the frequent references to first-hand experience, stamp it with the personality of the authors, who prove themselves free from fads and to be sound guides in the pathology and the surgery of the ear. The arrangement of the different sections and the general approach to the subject are in a conventional style, but the book has been brought thoroughly up to date in all points concerning the labyrinth and intracranial extensions of aural disease by the additions made by Dr. Saunders. We recommend this book warmly as an excellent manual for house-surgeons, clinical assistants, and practitioners.

The first volume of the twenty-eighth edition of the late Professor Strümpell's textbook of pathology and therapeutics[16] has now appeared. Professor C. SEYFARTH, who is responsible for the revision, contributes a short preface. New subjects dealt with in this edition include undulant and dengue fevers, abscesses of the lung, and ulcerative colitis. The new edition is conspicuous for its many and good illustrations, and for the excellence of its subject-matter.

Dr. F. F. MARTÍNEZ'S work[17] on intestinal occlusion, which, as we learn from the preface, is not intended for beginners but for experienced practitioners, is divided into three parts, dealing respectively with the diagnosis, etiology, and treatment of intestinal obstruction. A list of the writer's publications is appended.

[7] London: Faber and Gwyer, Ltd., The Scientific Press. 1929. (7s. 6d. net.)
[8] London and New York: G. P. Putnam's Sons. 1928. (6s. net.)
[9] Philadelphia and London: W. B. Saunders Company. 1929. (12s. net.)
[10] London: J. and A. Churchill. 1928. (8s. 6d.)
[11] London: J. B. Lippincott Company. 1928. (12s. 6d. net.)
[12] London: J. and A. Churchill. 1929. (5s.)
[13] New York: The Macmillan Company. 1929. (12s. net.)
[14] Philadelphia and London: W. B. Saunders Company. 1928. (8s. net.)
[15] *A Manual of Otology.* By Gorham Bacon, M.D., F.A.C.S., and Truman Laurence Saunders, M.D., F.A.C.S. Eighth edition, thoroughly revised. Philadelphia: Lea and Febiger. 1928. (Post 8vo, pp. vi + 576; 190 figures, 2 plates. 4.50 dollars.)
[16] *Strümpell-Seyfarth Lehrbuch der Speziellen Pathologie und Therapie der inneren Krankheiten.* Achtundzwanzigste, neu bearbeitete Auflage, Erster Band. Von Dr. med. et Phil. C. Seyfarth. Leipzig: F. C. W. Vogel. 1929. (6¾ × 9½, pp. xiii + 880; 177 figures, 11 plates. M.25.)
[17] *El Problema de la Oclusión Intestinal.* Fidel Fernández Martínez. Madrid: Javier Morata. 1928. (5½ × 8½, pp. 137; 39 figures.)

For the benefit of the layman Dr. IAN THOMSON has "potted" medicine into a booklet of little more than 100 pages, under the title *Good Health*.[18] He combines the art of compression with the faculty of clear exposition; so well, indeed, that Sir ARTHUR KEITH seems justified in saying in his preface that the mantle of Professor Arthur Thomson has fallen upon his son. Perhaps the layman will find difficulty in digesting the five-page digest of hormones; and a glossary of medical terms might be useful as an adjuvant to some of the potions of knowledge; but there is nothing deleterious in the ingredients, nor anything that need produce nightmare in the most neurotic of readers.

The ninth volume issued by *The Medical Department of the United States Army in the World War*[19] is devoted to communicable and other diseases. The diseases discussed include the enteric group, inflammatory diseases of the respiratory tract, tuberculosis, cerebro-spinal meningitis, encephalitis lethargica, anthrax, diphtheria, venereal diseases, the diarrhoeal group of diseases, the acute exanthemata, mumps, infectious jaundice, typhus, trench fever, Vincent's disease, malarial fevers, diseases caused by intestinal parasites, diseases of the skin, and neuro-circulatory asthenia. The text is illustrated by numerous tables of the incidence, mortality, and complications of the various diseases. A list of references, mainly to American publications, is appended to each chapter.

We have received a copy of Dr. GABRIEL LANGFELDT's prize essay[20] on the clinical examination of the visceral nervous system. It contains a criticism of the various tests in common use, such as the intravenous adrenaline test, the pilocarpine reaction, the atropine reaction, the oculo-cardiac reflex, and the cilio-spinal reflex. The Norwegian text is followed by summaries in German and English.

Under the auspices of the well-known French journal *La Presse Médicale*, a pamphlet[21] on medical education and registration in France has been compiled for the use of those interested, whether in France or other countries. It contains detailed information about the educational facilities in Paris and some general notes about those in the provinces.

A booklet[22] describing spas in the centre of France has been prepared incorporating descriptions by several authors and a preface by Professor CARNOT. A brief account of each place is given, with notes of the pathological conditions for which the waters are specially recommended. The booklet will be of considerable assistance to those who wish to know the therapeutic possibilities in that neighbourhood.

[18] *Good Health*. By Ian S. Thomson, M.D., D.P.H. With a foreword by Sir Arthur Keith, M.D., LL.D., F.R.S. London and New York: Longmans, Green and Co. 1929. (Cr. 8vo, pp. v + 122. Paper cover, 2s. net; cloth, 3s. 6d. net.)

[19] *The Medical Department of the United States Army in the World War*. Prepared under the direction of Major-General M. W. Ireland. Vol. IX, Communicable and Other Diseases. By Lieut.-Colonel Joseph F. Siler, *M.C.*, U.S. Army. Washington: U.S. Government Printing Office. 1928. (Sup. roy. 8vo, pp. 648; 53 charts. 2 dollars.)

[20] *En oversikt over den kliniske undersökelse av det viscerale nervesystem og en kritikk av de forskjellige prövers praktiske verdi stöttet paa egne undersökelser*. By Gabriel Langfeldt. Bergen: J. W. Eides Boktrykkerei A/S. 1929. (6 × 9, pp. 134.)

[21] *L'Enseignement Médical en France à l'Usage des Médecins et Étudiants Français ou Étrangers*. Paris: La Presse Médicale. 1929. (Demy 8vo, pp. 76.)

[22] *Stations Thermales de la Centre de la France*. Préface par M. le Professeur Carnot. Paris: L'Expansion Scientifique Française. 1929. (6¼ × 7¼, pp. v + 79; 1 map. 12 fr.)

PREPARATIONS AND APPLIANCES.

VITAMINS IN MARGARINE.

MESSRS. LEVER BROTHERS have drawn our attention to the results of tests on the vitamin content of certain of their margarines that have been carried out at two independent laboratories in this country. The margarines tested were special brands which had been activated by the addition of vitamin concentrates.

The manufacture of a margarine with an adequate vitamin content is a matter of considerable economic importance, for, until recently, animal fats have been the chief source of vitamins A and D, and the relatively high price of such fats has been an important factor in causing deficiency in these vitamins in the diet of the children of the poorer classes. The tests on margarine made by Dr. Katherine Coward have already been published (*Lancet*, October 6th, 1928, p. 726). She concluded that the particular brands of margarine that she tested were equal to the best summer butter in their vitamin A and D content, and that they were superior to many samples of butter tested.

Messrs. Lever Brothers have submitted to us the results of a second series of tests carried out in another laboratory. These show that the vitamin concentrates used in manufacture have a satisfactory vitamin content, and also confirm Dr. Coward's finding that the finished margarine has a vitamin content equal to that of good butter.

BIRTHDAY HONOURS.

THE Honours List issued on June 3rd, on the occasion of His Majesty's birthday, includes the names of the following members of the medical profession.

Order of Merit.

ROBERT BRIDGES, M.A., M.B., D.Litt., LL.D., F.R.C.P., Poet Laureate. In recognition of his eminent position in the world of literature.

Privy Councillors.

BERTRAND EDWARD, BARON DAWSON OF PENN, G.C.V.O., K.C.B., K.C.M.G., M.D., F.R.C.P., Physician in Ordinary to His Majesty the King.

The Hon. EARLE CHRISTMAS GRAFTON PAGE, M.B., Ch.M., Treasurer of the Commonwealth of Australia.

G.C.V.O.

Sir HUMPHRY DAVY ROLLESTON, Bart., K.C.B., M.D., F.R.C.P., Physician in Ordinary to His Majesty the King; Regius Professor of Physic in the University of Cambridge.

Baronets.

Sir EDWARD FARQUHAR BUZZARD, K.C.V.O., M.D., F.R.C.P., Physician Extraordinary to His Majesty the King; Regius Professor of Medicine in the University of Oxford.

Sir HUGH MALLINSON RIGBY, K.C.V.O., M.S., F.R.C.S., Serjeant Surgeon to His Majesty the King.

K.C.B. (Civil).

Sir FREDERICK STANLEY HEWETT, K.C.V.O., K.B.E., M.D., Surgeon to His Majesty the King and Surgeon Apothecary to His Majesty's Household.

K.C.V.O.

FRANCIS EDWARD SHIPWAY, M.D., Senior Honorary Anaesthetist to Guy's Hospital.

K.B.E. (Civil).

RICHARD RAWDON STAWELL, M.D., President of the Melbourne Hospital; for services to the Commonwealth of Australia.

Major-General THOMAS HENRY SYMONS, C.S.I., O.B.E., Honorary Surgeon to His Majesty the King; Director-General, I.M.S.

Knights Bachelor.

Professor WILLIAM COLIN MACKENZIE, M.D., F.R.S., Director of the National Museum of Australian Zoology.

ROBERT STANTON WOODS, M.D., M.R.C.P., Physician in charge of the Departments of Physiotherapy and Electrotherapy, London Hospital.

C.B. (Military).

Surgeon Rear-Admiral HENRY CADMAN WHITESIDE, M.R.C.S., L.R.C.P.

Major-General HAROLD PERCY WALLER BARROW, C.M.G., D.S.O., O.B.E., K.H.S. (late R.A.M.C.), Director of Hygiene, the War Office.

C.B. (Civil).

MAURICE ALAN CASSIDY, M.D., F.R.C.P., Chief Medical Officer of the Metropolitan Police.

C.M.G.

WILLIAM JAMES DEACON INNES, M.R.C.S., L.R.C.P., West African Medical Staff, Director of Medical and Sanitary Services, Gold Coast.

OLIVER FRANCIS HAYNES ATKEY, M.B., F.R.C.S., Director of the Sudan Medical Service.

C.I.E.

Major-General RICHARD WILLIAM ANTHONY, I.M.S., Surgeon General with the Government of Bombay.

CHARLES ALBERT BENTLEY, M.B., C.M., Director of Public Health, Bengal.

C.V.O.

HAROLD KINGSTON GRAHAM HODGSON, M.B., B.S., Radiologist to King's College Hospital.

FRANK DUTCH HOWITT, M.D., M.R.C.P., Physician in charge of Physiotherapy Department, Prince of Wales's General Hospital.

LIONEL ERNEST HOWARD WHITBY, *M.C.*, M.D., M.R.C.P., Assistant Pathologist, Middlesex Hospital.

M.V.O.

EDWARDS CHARLES DODDS, M.D., M.R.C.P., Professor of Biochemistry in the University of London.

C.B.E. (Military).

Colonel A. H. SAFFORD, V.H.S. (late R.A.M.C.), Assistant Director of Medical Services, Baluchistan District, India.

C.B.E. (Civil).

DONALD MACKENZIE MACRAE, M.D., Principal Medical Officer, Bechuanaland Protectorate.

Lieut.-Colonel JOHN WILLIAM WATSON, C.I.E., I.M.S., Civil Surgeon, Ajmer, and Chief Medical Officer, Rajputana and Ajmer-Merwara.

O.B.E. (*Military*).

Surgeon Commander FRANK LEWIS SMITH, R.N.
Major DOUGLAS GORDON CHEYNE, *M.C.*, M.D., R.A.M.C., Deputy Assistant Director of Hygiene, China Command.
Captain PETER FIFE AUCHINACHIE GRANT, M.B., I.M.S.
Major JOHN CLARK PYPER, M.B., I.M.S., late Medical Officer, Equitation School, Saugor, India.
Squadron Leader (Hon. Wing Commander) EDGAR HUNTLEY, M.B., B.S., R.A.F.

O.B.E. (*Civil*).

ALEXANDER SANDISON, M.B., Principal Medical Officer, Ministry of Pensions.
Major JAMSHEDJI NUSSERWANJI DUGGAN, I.M.S., Professor of Ophthalmic Medicine and Surgery, Grant Medical College, Bombay, and Superintendent of the Sir Cowasji Jehangir Ophthalmic Hospital, Bombay.
PIEDADE FELICIAN MATHIAS, Madras Medical Service, Superintendent, Government Royapuram Hospital, and Lecturer in Surgery, Royapuram Medical School, Madras.
IRVING DANIEL RAMSAY, M.D., Civil Surgeon, Ministry of Interior, Iraq.
GEORGE STUART, M.A., M.B., Ch.B., Assistant Director, Laboratories, Department of Health, Palestine.

M.B.E. (*Military*).

Medical Warrant Officer, 3rd Class Assistant Surgeon ALFRED BACKMAN, Indian Medical Department, attached Iraq levies.

M.B.E. (*Civil*).

THOMAS FAWSITT, M.R.C.S., L.R.C.P. For public and charitable services in Oldham.
WILLIAM PATRICK SMYTHE MITCHELL, Indian Medical Department, Medical Officer, Bastar State, Central Provinces.
JAMES HERBERT THEODORE, Indian Medical Department, King Institute, Guindy, Madras.
SOCRATES NORONHA, Medical Officer in charge, Anti-Venereal Department, Bombay Municipality.
CHARLES ROBERT PHILIP, M.B., East African Medical Service, Medical Officer, Kenya.

Kaisar-i-Hind Medal (*First Class*).

GEORGE BARNES ARCHER, M.D., Medical Officer, Medical Mission, Dayabari, Ranaghat, Nadia, Bengal.

The honour of Knighthood has been conferred also upon JAMES R. JACKSON, M.R.C.V.S., Chief Veterinary Officer, Ministry of Agriculture and Fisheries, and upon P. CHALMERS MITCHELL, C.B.E., M.A., LL.D., D.Sc., F.R.S., Secretary of the Zoological Society.

THE GENERAL ELECTION.

MEDICAL MEMBERS OF THE NEW PARLIAMENT.

THE following nine medical men who were members of the last Parliament have been re-elected to the House of Commons at the recent General Election:

Dr. A. VERNON DAVIES (C.), Lancaster (Royton).
Dr. W. E. ELLIOT (C.), Glasgow (Kelvingrove).
Dr. F. E. FREMANTLE (C.), Hertfordshire (St. Albans).
Dr. H. C. HASLAM (C.), Lincolnshire (Horncastle).
Dr. E. GRAHAM LITTLE (Ind.), London University.
Dr. ALFRED SALTER (Lab.), Bermondsey (West).
Professor THOMAS SINCLAIR (C.), Queen's University, Belfast. Returned unopposed.
Dr. DRUMMOND SHIELS (Lab.), Edinburgh (East).
Dr. J. H. WILLIAMS (Lab.), Carmarthen (Llanelly).

The following eight members of the medical profession have also been elected; several of them have sat as members of the House of Commons in previous Parliaments.

The Right Hon. CHRISTOPHER ADDISON (Lab.), Swindon.
Dr. ETHEL BENTHAM (Lab.), Islington (East).
Dr. ROBERT FORGAN (Lab.), Renfrew (Western).
Mr. SOMERVILLE HASTINGS (Lab.), Reading.
Dr. JOSEPH HUNTER (L.), Dumfries.
Dr. H. B. MORGAN (Lab.), Camberwell (North-West).
Dr. J. H. MORRIS-JONES (L.), Denbigh.
Dr. G. E. SPERO (Lab.), Fulham (West).

Of the seventeen successful medical candidates, nine belong to the Labour party, five are Conservatives, two are Liberals, and one is an Independent. Dr. Ethel Bentham has the distinction of being the first medical woman to enter Parliament.

Sir George Berry (C.), who was one of the three representatives of the combined Scottish Universities in the late Parliament, is standing again, and another medical candidate for that constituency is Dr. J. Kerr (Lab.). The result has not yet been declared.

Polling Figures.

The following are the polling figures at all the contested elections in which medical candidates were successful. An asterisk denotes that a candidate sat in the last Parliament.

SWINDON (WILTS):	
Dr. C. Addison (Lab.)	16,885
*Sir R. Mitchell Banks (C.)	14,724
F. C. Thornborough (L.)	7,060
ISLINGTON (EAST):	
Dr. Ethel Bentham (Lab.)	15,199
*Major R. I. Tasker (C.)	13,541
E. C. Middleton (L.)	11,136
LANCASTER (ROYTON):	
*Dr. A. Vernon Davies (C.)	15,051
H. Derbyshire (L.)	13,347
A. E. Wood (Lab.)	10,763
GLASGOW (KELVINGROVE):	
*Dr. W. E. Elliot (C.)	17,031
J. Winning (Lab.)	15,173
W. Reid (L.)	2,623
RENFREW (WESTERN):	
Dr. R. Forgan (Lab.)	14,419
A. T. Taylor (C.)	12,183
F. S. Anderson (L.)	2,682
R. E. Muirhead (Scottish Nat.)	1,667
HERTFORDSHIRE (ST. ALBANS):	
*Dr. F. E. Fremantle (C.)	20,436
Miss M. Whateley (Lab.)	11,699
G. G. Honeyman (L.)	10,299
LINCOLNSHIRE (HORNCASTLE):	
*Dr. H. C. Haslam (C.)	12,837
F. C. Linfield (L.)	10,168
J. R. Sanderson (Lab.)	3,683
READING:	
Mr. Somerville Hastings (Lab.)	23,281
*H. G. Williams (C.)	22,419
D. Macfadyen (L.)	7,733
DUMFRIES:	
Dr. J. Hunter (L.)	16,174
*Brig.-General J. Charteris (C.)	12,984
W. H. Marwick (Lab.)	6,687
UNIVERSITY OF LONDON:	
*Dr. E. Graham Little (Ind.)	5,869
W. T. Layton (L.)	2,923
Sir John Gilbert (C.)	2,179
CAMBERWELL (NORTH-WEST):	
Dr. H. B. Morgan (Lab.)	12,213
*E. T. Campbell (C.)	9,808
H. Harcourt (L.)	5,559
DENBIGH:	
Dr. J. H. Morris-Jones (L.)	21,305
A. Graham (C.)	13,116
BERMONDSEY (WEST):	
*Dr. A. Salter (Lab.)	13,231
L. J. Stein (L.)	4,865
Lieut.-Colonel H. C. Butcher (C.)	3,852
EDINBURGH (EAST):	
*Dr. Drummond Shiels (Lab.)	13,933
T. P. McDonald (L.)	8,587
R. C. Thyne (C.)	6,889
FULHAM (WEST):	
Dr. G. E. Spero (Lab.)	16,190
*Sir Cyril Cobb (C.)	13,979
G. A. Gale (L.)	5,920
CARMARTHEN (LLANELLY):	
*Dr. J. H. Williams (Lab.)	28,585
R. T. Evans (L.)	15,065
J. P. L. Thomas (C.)	3,969

Unsuccessful Candidates.

The following members of the medical profession were defeated at the polls. Several of them had previously represented or contested either the same or other constituencies. An asterisk denotes that a candidate sat in the last Parliament.

Dr. C. W. Brook (Lab.), Wandsworth (Balham and Tooting).
Dr. F. G. Bushnell (Lab.), Birmingham (Moseley).
Dr. Stella Churchill (Lab.), Brentford and Chiswick.
Dr. J. D. Cooke (C.), Camberwell (Peckham).
Dr. C. R. Cooke-Taylor (L.), Camberwell (Dulwich).
Dr. R. Dunstan (Com.), Bethnal Green (South-West).
Dr. L. Haden Guest (C.), Salford (North).
Dr. A. B. Howitt (C.), Preston.
*Sir Henry Jackson (C.), Wandsworth (Central).
Dr. J. W. Leech (C.), Newcastle-upon-Tyne (West).
*Sir Richard Luce (C.), Derby.
Dr. R. Lyons (Lab.), Middlesex (Hendon).
Dr. R. A. Lyster (Lab.), Hampshire (Winchester).
Dr. R. O. Moon (L.), Oxford.
Dr. J. Fraser Orr (L.), Linlithgow.
Dr. Joseph Robinson (Lab.), Manchester (Withington).
Dr. J. V. Shaw (L.), Derbyshire (Ilkeston).
Dr. W. H. Summerskill (L.), Wandsworth (Balham and Tooting).
*Sir Thomas Watts (C.), Manchester (Withington).

British Medical Journal.

SATURDAY, JUNE 8TH, 1929.

ENCEPHALITIS LETHARGICA AND JUVENILE DELINQUENCY.

THE age-long problem of troublesome youth has within the last ten years been complicated to some extent by the intrusion of encephalitis lethargica into the list of organic diseases which seriously disturb the mental processes of the patient and profoundly alter his character and conduct. Fortunately, in respect to the population at large, the individuals who are each year seriously attacked by this disease are few in number; and, although some 30 to 40 per cent. of such persons, in greater or less degree, become changed in character, they do not swell the sum of delinquency to any serious extent. Thus a recent report issued by the Home Office[1] shows that at the end of 1926 there were 6,871 boys and girls under reformatory training in Home Office schools, whereas the total number of juveniles sent to these schools on account of post-encephalitic delinquency during the period 1920–27 numbered only 108; in Borstal institutions and prisons also the post-encephalitic subjects do not form a large proportion of the inmates as a whole. But in the general lump of juvenile delinquency, wherever it may be found—in special schools, reformatories, mental hospitals, or penal places—the post-encephalitic constituent is an active and disquieting leaven. There are several reasons why, in spite of their relatively insignificant numbers, post-encephalitis delinquents—chiefly children and adolescents, with males preponderating—should attract special attention. In the first place, the causes and circumstances of their plight are different from those which obtain in the case of certain other classes of delinquent. Thus it is by no means usual to find any strong antecedent evidence of mental instability either in the delinquent or his parents; still less frequently can the home environment of the patient be said to have contributed materially to his condition; and among school children it is notorious that the mentally backward or temperamentally troublesome scholar does not succumb to the disease so often as does the well-behaved child of good or exceptional ability.

The failure to adapt themselves to their social environment which certain sufferers from encephalitis lethargica share with other types of delinquents seems to arise mainly from a condition of irritability combined with motor restlessness (especially marked at night) and emotional instability; there is a loss of volitional control, and, generally speaking, the changes appear to be regressive in character and associated with various forms of misbehaviour of a primitive and instinctive type. McCowan and Cook[2] are inclined to agree with Auden[3] that the behaviour changes in encephalitic subjects are partly brought about by "regression due to removal or suppression of the epicritic control over the protopathic instinctive tendencies." In any case, most observers consider that the moral and emotional instability of encephalitic delinquents is not due to any impairment of their intellect, and, as one authority puts it, "the encephalitic is almost invariably intellectually superior to his conduct."

The changes in behaviour—which some authors, like Wimmer,[4] consider show uniformity in different patients, but which Shrubsall[5] thinks are coloured by the individual patient's previous experience—are manifold and often strange, while they vary in importance from an unnatural irritability to homicidal tendencies. Irritability may show itself in general restlessness, interference with others, teasing, abusive language, destructiveness, and in many other ways; motor restlessness seeks an outlet in wandering—especially at night—truancy, queer antics, fighting, and occasionally in acts of daring involving some degree of personal courage. Emotional disturbances are reflected in fits of laughter or crying, and in such directions as general noisiness, rowdyism, etc. The more serious effects of a loss in volitional control which bring the subject within the arm of the law are such malpractices as lying, thieving, arson, sexual offences, assault, and even homicide. But in association with such examples of misbehaviour and crime, many of which apply to other forms of delinquency, there are certain temperamental and physical attributes of the encephalitic delinquent which have attracted attention. Thus Shrubsall[5] has pointed out the encephalitic child's desire to attract notice, and the same morbid craving for attention is reported of encephalitis lethargica patients in the West Park Mental Hospital; a child in another institution would, as a matter of routine when visitors were present, let herself fall from a ladder during a physical exercise class in order to attract attention. Another characteristic trait in encephalitic delinquents is their readiness to express, and to show, sincere contrition for their misdemeanours, which they recognize as such, and to the committal of which they say they are overwhelmingly compelled; moreover, there is sometimes the wish, if not the will, to improve, as in the case of a girl of 13 at Winchmore Hill, who would say: "Can I stay upstairs by myself until school time? I feel I am going to fight." At the same time, other patients are less honest with themselves, and furnish all sorts of ingenious, if not ingenuous, excuses.

Professor René Cruchet, in his graphic narrative which appears at page 1028 of our present issue, illustrates in the case of one of his patients several of the points touched upon above. He also emphasizes the fact that, with the progressive deterioration in conduct as the boy grew up, there was no arrest in physical development and strength. In this connexion we may recall that T. R. Hill[6] has found that when the physical symptoms of Parkinsonism supervene the tendencies to delinquency begin to decline, and then to disappear when this condition becomes pronounced.

The encephalitic delinquents as a class are remarkable for the special difficulties which their treatment and after-care involve. They apparently do not react satisfactorily to the reformative treatment which in Home Office schools and Borstal institutions has proved successful in the case of other types of youthful offenders. As mental patients McCowan and Cook[2] consider that "the encephalitics are the most troublesome and pugnacious children in the ward." The prospects of a thorough reformation in character seem, indeed, to be remote in many of the graver cases of post-encephalitis. But this should not yet discourage

[1] Home Office: Fourth Report on the Work of the Children's Branch, November, 1928.
[2] McCowan, P. N., and Cook, L. C.: The Mental Aspect of Chronic Epidemic Encephalitis, *Lancet*, 1928, i, 1216.
[3] Auden, G. A.: Encephalitis Lethargica: Its Psychological Implications, *Journ. Mental Research*, October, 1925.
[4] Wimmer, A.: *Chronic Epidemic Encephalitis*, London, 1924.
[5] Shrubsall, F. C.: The Sequelae of Encephalitis Lethargica, *Journ. Med. Psychology*, 1927, vol. vii, Pt. 2.
[6] Hill, T. R.: The Problem of Juvenile Behaviour Disorders in Chronic Epidemic Encephalitis, *Journ. Neurol. and Psychopathol.*, 1928, ix, xxxiii, 1.

the laudable efforts at salvage and the patient research work which is being carried on at such institutions as the Northern Hospital, Winchmore Hill, the West Park Hospital, Epsom, the Southmead Hospital, Bristol, and others; nor can the special value of such comprehensive and informative case-histories as that given by Professor Cruchet be overestimated. A ray of hope has recently been emitted from the Winchmore Hill Unit, where Hill[7] has been able apparently to improve the habits and general conduct of certain patients by the use of bulbocapnine, a drug related to apomorphine.

THE TREATMENT OF TUBERCULOUS ADENITIS.

"PLUS ça change plus c'est la même chose" is an adage which, if not true of all medical problems, can certainly be applied to the methods of treating tuberculous glands in the neck. Some thirty years ago a radical enucleation of the glands was the accepted routine practice; there followed a vogue of conservative methods, of which the most important was based on removing the supposed primary focus of infection and relying on the natural or stimulated resistance to overcome infection in the glands. Other procedures were often empirical, but in general fell into line with methods used in the treatment of other types of tuberculous infection. Conservative measures have been given a fair trial, and still have ardent advocates; if, however, we accept the evidence which Mr. Gordon Bruce gives in our present issue (p. 1030), it would appear that the full circle has been turned, and that surgical treatment is once again to be regarded as the method of choice for the majority of established infections. Mr. Bruce, basing his conclusions on a study of 330 cases of cervical adenitis treated during four consecutive years at Aberdeen, strongly advocates the radical excision of glands diagnosed as tuberculous in which there is clinical evidence of caseation. From his investigations he is satisfied that this condition is present in all glands which have been subject to alternate attacks of swelling and periods of quiescence. He finds that removal of diseased tonsils has no marked effect on the glandular condition, and is frankly sceptical of the value of heliotherapy in relation to the local condition of all but early cases. In support of the latter view he quotes Dr. Margaret Tod, who, in surveying a group of cases treated by this means in Edinburgh, stated that in no case had it effected a cure.

If these gland infections are recognized as being local rather than systemic in nature, the radical removal of the diseased tissue, so far as is practicable, presents itself as a sound procedure. Mr. Gordon Bruce is clearly of the opinion that few cases of tuberculous adenitis are blood infections, adducing as evidence the fact that in 90.6 per cent. of his series the infection was apparently limited to the gland area operated on. In no case belonging to this group was there found evidence of tuberculous infection elsewhere before or after operation. The argument for radical excision is further supported by the view that once caseation is well established complete resolution without operation does not occur. In this event removal of a primary focus of infection, such as the tonsil, cannot be expected to do more than prevent further infection. There is no doubt that in many cases apparently cured by conservative methods the infection in the glands has been not tuberculous, but streptococcal. Streptococcal infections may precede or accompany tuberculous infection in some instances, or they may be the sole lesion in chronically enlarged glands. In general they are present in the early stage, but may remain dormant for a considerable time, causing a flare-up in the wound after a radical operation. It is interesting to note that in 187 operations performed by Mr. Bruce 9 patients developed secondary streptococcal infection of a severity which was thought worth recording.

It has been a matter of discussion how far conclusions based on the results obtained in the treatment of tuberculosis in Scotland are valid in England. There is evidence that the clinical course of tuberculosis in Scotland differs from that in the south; moreover, in Scotland, in both bone and gland disease, there is a higher incidence of infection with the bovine organism. In his report to the Science Committee of the British Medical Association, published in the *British Medical Journal* of January 17th, 1914 (p. 125), Philp Mitchell made the following statement: "Cow's milk containing bovine tubercle bacilli is clearly the cause of 90 per cent. of the cases of tuberculous cervical glands in infants and children residing in Edinburgh and district, and is responsible for by far the larger proportion of tuberculous cervical glands in children during the milk-drinking period of life (0 to 5 years)." There does not appear to be any conclusive evidence as to the exact type of organism responsible for adenitis in the southern area of Britain.

Mr. Gordon Bruce's most important conclusions are that glands in the neck remaining persistently enlarged after three months are nearly always tuberculous in nature, and that if there is clinical evidence of their having undergone caseation the most satisfactory results are obtained by their enucleation. The complications of extracapsular abscess and sinus formation handicap the surgeon in his dissection; they do not contraindicate operation, but lead to a lower standard of final results, both as to scar condition and permanency. These views are worth careful study; certainly most surgeons at the present time, though they would probably give conservative methods a trial for longer than three months, tend to conform to them. The surgery of the radical operation is not simple; injuries to important nerves and major blood vessels have not always been avoided, and in this connexion Mr. Bruce's paper contains a considerable amount of interesting detail.

[7] Hill, T. R.: Juvenile Behaviour Disorders in Epidemic Encephalitis, *Lancet*, 1929, i, 968.

NEUROLOGY AND LIFE.

THE Earl Grey Memorial Lecture[1] recently delivered by Sir Farquhar Buzzard offers a pleasing educational opportunity to any who may be inclined to limit the range and influence of medicine to technical and professional ends. Equally, the lecture may be commended to those who are disposed to think that physiological investigations and the doctrines that result from these are remote from medical practice and the life of the world. A third group of readers may be invited—namely, all those who appreciate the presentation of a scientific record in a systematic fashion, and with logical sequence and literary charm. Alike to the medical and the lay reader, Sir Farquhar's lecture will be both a welcome and an instructive experience. The lectureship was established as a tribute to the memory of a statesman and administrator who made a large contribution to the wise policy on which are laid the foundations of the British Empire, and the text of the lecture is expected to be a topic of educational or social importance. Sir Farquhar Buzzard's thesis is that the developing

[1] *An Outline of Neurology and its Outlook*. By Sir E. Farquhar Buzzard, K.C.V.O., M.D., F.R.C.P. London: Milford, Oxford University Press. 1929. (Med. 8vo, pp. 24. 1s. net.)

knowledge of neurology and the outlook thus created form a theme that comes within this definition. In a singularly lucid and masterly fashion he describes how step by step and through the centuries the truth about the structure and functions of the nervous system has been acquired, and how anatomy, physiology, pathology, clinical observation, and, more recently, psychology have made their several contributions to this end. This historical sketch forms the main portion of the lecture, and is presented with a degree of competence and clearness that deserves grateful recognition. Then comes the outlook and the argument. From the structural facts and domestic activities of the nervous system of the human body we are invited to pass to the proposition that "education and sociology alike are based, or should be based, on what knowledge we possess of the individual and communal reactions of the nervous system to external influences." It is on the truths of physiology, and not on benevolent emotions, that the educationist and the sociologist must build would they have for their policies a secure foundation. At present there are hindrances. First, the full significance of certain physiological facts cannot yet be accurately defined. In the second place, there is no large public equipped with the elementary knowledge and sense of responsibility necessary to the profitable reception of "the rich harvest of scientific facts and laws which is now being reaped." Physiology in some of its departments has yet to gain in precision, and, still more, public opinion has to be informed and educated until it is ready to face facts and to "abandon a mediaeval faith in miraculous cures." To the clinician and the pathologist Sir Farquhar Buzzard gives credit for definitely showing that the brain is the organ of mind, and that all forms of mental disorder are related to changes in the highest part of the nervous system. Pavlov's studies of the conditioned reflex he regards as offering an opportunity for the investigation of the higher levels of the cerebral activities, and here he anticipates results which "must sooner or later disturb the peaceful dreams of educationists." As a further illustration of the relation between education and cerebral structure and function he quotes the alterations in moral and mental attributes that may follow an attack of encephalitis lethargica, where what has been attained by years of mental and moral training may entirely disappear as a result of structural cerebral changes. Such an experience, he recognizes, "makes it difficult to preserve quite intact older conceptions of a soul or of a conscience, and almost impossible to draw a clear line of demarcation between body and spirit." Again, another approach to the workings of the mind is opened by studies in psychology and psycho-pathology, and Freud's work and teaching have, in Sir Farquhar's judgement, thrown much light "on the obscure origin of many forms of minor mental disorder." Between physiological inhibition on the one hand, and the psychological repression of Freud on the other, there may be suggested a relationship which "dimly foreshadows the ultimate conciliation of two separate attempts to solve the same great problem—the workings, ordered and disordered, of the human mind." In all this there is abundant proof that neurology includes within its scope truths to which the educationist and the sociologist must needs give ear, and the audience may even be enlarged by the addition of the philosopher and the theologian.

HAIR DYES.

IT is true that the harassed medical student has not yet to be "signed up" in hair dyeing before he may satisfy his examiners that he is fit to practise, but the subject is by no means devoid of medical interest. Never before in the history of the world would people seem to have been so reluctant to accept philosophically the approach of old age; never so much as to-day have the resources of the chemist been made to serve the desire to maintain a youthful appearance. While, however, the chemist may take some pride in the efficiency of the innumerable dyes which have been devised to mask the presence of white hairs—so shattering, apparently, to the illusion of youth—the physician's interest is engaged by the fact that many of the chemicals employed are far from harmless and that his services are sometimes invoked to treat cases of poisoning brought about by their application. Notwithstanding the efforts of the practitioners of cosmetic arts to veil their proceedings in mystery, a great deal of information bearing on the subject may be gleaned from the trade publications serving the members of the hairdressing profession and from scattered papers in various chemical journals. We welcome, however, the publication of the book which bears the intriguing title *Blonde or Brunette?*[1] for within its small compass the authors have collected, and presented, simply yet scientifically, all that the medical man needs to know about this subject. It is interesting to read that henna, which has enjoyed a high reputation since Biblical times, and is still largely used for cosmetic purposes, might be considered the ideal hair dye, but for the fact that it requires more skill in its application than some other substances. Successfully applied, it gives a wide range of good colours, and has the great advantage of being perfectly harmless. To-day the ideal hair dye must not only produce with safety a permanent colour, natural in appearance, but it must not render the hair less responsive to the treatment known as permanent waving. In this respect the metallic dyes fail, though all of them which depend for their action on the reduction of silver or some other metal by a solution of pyrogallol are in other respects quite satisfactory. It is on account of this unfortunate defect in the metallic dyes that hairdressers are greatly tempted to employ the convenient dyeing agent paraphenylenediamine (known to the trade as "para"), which is endowed with all the attributes of the perfect hair dye, except that it is extremely toxic to susceptible persons. In these it produces a virulent dermatitis, which may extend far beyond the area of its application, and has even been known to affect the whole cutaneous surface. If, moreover, the victim of an attack is so foolhardy as to risk further contact with the exciting substance she will suffer even more severely than she did the first time. The fact that only 1 per cent. of healthy persons are susceptible encourages many hairdressers to risk using this chemical without testing their client's sensitiveness. The test is carried out quite simply, by applying a small quantity of "para" to the skin behind the ear and waiting twenty-four hours for the possible development of erythema. If the skin remains normal in that time the dye may be applied with safety. The fact that paraphenylenediamine gives the required tint almost instantaneously, while pyro-reduction dyes require forty-eight hours to achieve their effect, is an additional source of temptation to the hairdresser, especially when a client demands cosmetic treatment before attending a social function the same evening. The toxic qualities of "para" are so well known to the trade that hairdressers have occasionally tried to escape the wrath of poisoned clients by denying its use, alleging that they had applied a dye of the pyro group; this defence, however, can never deceive those who know the instantaneous tint produced by the former and the delayed action of the latter. Pyro-reduction dyes are irritant only if the pyrogallol solution is of excessive strength. Medical men who desire to know more of the technique of hair dyeing, the chemistry of the dyes used, and their effects on the health and appearance of the hair, would do well to consult this concise treatise.

[1] *Blonde or Brunette?* By H. Stanley Redgrove, B.Sc., A.I.C., and Gilbert A. Foan, President of the Hairdressers' Trade Parliamentary Committee. London: W. Heinemann (Medical Books) Ltd. 1929. (Demy 8vo, pp. xii + 182; 28 figures. 7s. 6d. net.)

GOLDSMITH AND MEDICINE.

AMONG the numerous celebrations of this and last year one of unusual interest from a medical point of view, on account of some debatable details, is the bicentenary of Oliver Goldsmith (1728-1774). In our issue of March 9th (p. 469) we reported an address full of detailed information delivered by Dr. T. P. C. Kirkpatrick, Registrar of the Royal College of Physicians of Ireland, and the outstanding authority on the history of Irish medicine, on "Goldsmith in Trinity College and his connexion with medicine."[1] Dr. Kirkpatrick asserted that (contrary to a widely held belief) Goldsmith, rejected for the Church and for a short time considering the study of law, began his medical studies not at Trinity College, where he graduated in arts in 1750, but two years later, first in Edinburgh, then at Leyden, Paris, and elsewhere. There appears to be no sound foundation for Frankfort Moore's suggestion that Goldsmith intended to adopt "the profession of a medical student," a practice which was not uncommon in the following century, and, indeed, then often seemed adequately to fill a man's lifetime. The question of where Goldsmith obtained his M.B. degree has been much discussed and investigated; at the Section of the History of Medicine of the Royal Society of Medicine in 1914 it was suggested that he deceived the University of Oxford when, on February 14th, 1769, he got an *ad eundem* degree of M.B. by describing himself as an M.B. of Dublin. Dr. Kirkpatrick, after careful consideration of all the circumstances—among them the fact that medical degrees were sometimes granted by the University of Dublin without examination, as occurred in the case of Richard Brocklesby, also a friend of Dr. Samuel Johnson—suggests, though without dogmatism, the possibility that Goldsmith may have had the M.B. degree of Dublin University conferred upon him *in absentia*. Unfortunately, after his visit to Oxford, his interest in physic became mainly that of the patient rather than of the practitioner. There must always be some doubt about the nature of his final illness and his own responsibility for its termination. Against the advice of Drs. Hawes and George Fordyce, he obstinately persisted in dosing himself with Dr. Robert James's fever powder, though Dr. Kirkpatrick believes that neither the powder nor any other treatment employed can be justly blamed, and cautiously suggests that Goldsmith's chief complaint was some form of chronic nephritis, which terminated in uraemia.

[1] *Irish Journ. Med. Sci.*, 1929, Sixth Series, No. 40, pp. 142-162.

WELSH NATIONAL SCHOOL OF MEDICINE.

AFTER a year of discussions and negotiations between the various interested parties, there seems every prospect that the Welsh National School of Medicine will be able to make a fresh start in the autumn. It will be remembered that last summer, owing to the refusal of the staff of the Cardiff Royal Infirmary to co-operate in the teaching of the final-year subjects, the senior students of the school had to leave Cardiff and continue their studies elsewhere, and the school was finally shut down when the Royal Infirmary definitely closed its doors to all students. It was unthinkable that an educational institution of such promise should be allowed to founder in this way, and we are very glad to learn that an agreement has been reached between the University of Wales, Cardiff College, and the Royal Infirmary which will enable the school to reopen once more, and, it is hoped, guard against the repetition of last year's catastrophe. The agreement, which is for seven years in the first instance, accepts the principle of the unit system, establishes a board of clinical studies by which considerable executive responsibility is given to the hospital staff, and, most important of all, provides that all the beds in the Infirmary shall be available for teaching. This last is really the vital point, for the clinical facilities at the Infirmary are by no means excessive, and unless they can be utilized to the full it would not be possible to provide for a comprehensive clinical training. Since the Cardiff students usually combine the Welsh degree with the degrees of London University or the diplomas of the English Conjoint Board, these authorities are naturally concerned with the facilities for clinical teaching available at Cardiff; they demand that all the resources of the Infirmary shall be utilized to the full, and this implies the active co-operation of all the members of the staff, for, speaking generally, it is not possible for one man to teach on another man's patients. At the meeting of the Infirmary Board of Management when the agreement was ratified there appeared somewhat disquieting indications that the medical members were still unwilling to assent to the principle that a staff appointment should carry with it the obligation to teach. The lay members, however, were emphatic on this point, and it was laid down quite clearly that the clause in the agreement which places all the Infirmary beds at the disposal of the school must also be taken to mean that every member of the staff shall co-operate in the work of the school. The agreement appears to offer a sound working basis, and it is sincerely to be hoped that all the contracting parties will faithfully observe it in the spirit as well as in the letter. The Welsh School of Medicine could hardly survive another breakdown, and if this agreement fails to solve the problem at issue the future outlook is black indeed. Modern medical education is such a costly matter that a reduction in the number of existing schools would seem a more justifiable policy than the creation of additional ones. Only by carefully fostering all its resources can the Welsh School of Medicine hope to succeed; the continuation of internal dissension must inevitably lead to a final collapse.

TRAFFIC IN DRUGS OF ADDICTION.

AFTER the day's work many of us enjoy an hour or two's relaxation in a world terrorized by international gangs of crooks and dominated by sinister geniuses with an anti-social complex. It is not a little startling when the amenities offered by sensational fiction are paralleled in a sober essay describing dispassionately what is actually happening around us. Yet the writer of fiction, jealous of his reputation for plausibility, would scarcely venture to strain our credulity with a picture as amazing as that presented by Dr. F. Redlich, who, in his book on drug intoxication and addiction,[1] tells us how international organizations, with agents all over the world, skilfully make use of every loophole in international laws and agreements to carry out their odious but profitable trade. He describes, for example, an organization controlled by two Russian merchants and a Russian doctor in Berlin, and a merchant in Reval, which worked east to Japan and west to Valparaiso. They bought drugs openly in Germany, and apparently dispatched them from Berlin to Rumania with all due legal formality. Once the forms were filled in, what they did was to remove the drugs from the packages through false bottoms, substitute inert chemicals, and dispatch these to the confederate in Rumania, who would then duly acknowledge their receipt. The drugs thus released from bond were disposed of in various ways; some were peddled in Berlin and Paris, some were sent to Russia and Persia, both of them countries outside the Opium Convention. The remainder were dispatched to the free port of Copenhagen, where they were coloured with charcoal, mixed with spirit, packed up attractively as cosmetics, shoe polish, etc., and sent to the Far East by way of Russia. The scale of the profits is indicated by

[1] *Rauschgifte und Suchten.* Von Dr. phil. Fritz Redlich. Bonn: Kurt Schroeder. 1929. (Med. 8vo, pp. 98. M.4.40.)

the fact that cocaine bought in London for £20 was sold in the Far East for over £100; some of the drugs passed on from the Far East to America. The shipment of drugs from Chinese ports to America is controlled by organizations commanding large capital; one such organization in Hong-Kong is said to have a monthly turnover of 200,000 dollars. In 1927 a single shipment of drugs worth £5,000 was seized on a Canadian vessel. The profits from this amount may be estimated from the fact that the price of illicit drugs in Canada is nearly ten times the legal price, and the successful smuggling of a pound of cocaine would represent a profit of £250. Cuba and the islands of St. Pierre and Miquelon, on the east coast of America, are centres of illicit drug trade, but most of the smuggling is done across the Canadian border by bootleggers, who, for so profitable an industry, have practically unlimited funds at their disposal. Into China, the greatest market in the world for drugs of addiction, alkaloids and opium are smuggled through every conceivable route. We are not surprised to learn that Macao and Vladivostock are centres of this trade, but it is curious to read of opium smuggled on pony-back from Persia across Afghanistan to Chinese Turkestan, where each pony load fetches £160. The new motor track across the Syrian desert is already being used for the smuggling of cocaine into Baghdad. According to Dr. Redlich, morphinism and cocainism are spreading steadily in Asia, morphine addiction in particular having penetrated far into the interior of China, and being a greater danger to that country than the opium habit.

MORE FRUIT.

ACCORDING to a Chadwick lecturer, Mr. H. V. Taylor, commissioner of horticulture in the Ministry of Agriculture and Fisheries, every person in this country eats, on the average, 100 apples a year, 72 oranges, and 30 bananas. Indeed, from Mr. Taylor's lecture, which was delivered in the delightful old Chelsea Physic Garden on May 31st, one might almost suspect that we are becoming a race of fruitarians. Twenty years ago the annual production of fruit in this country was something like 400,000 tons; to-day it exceeds that figure by at least 100,000 tons, and in the meantime the supplies of imported fruit have increased enormously. Certain fruits and vegetables, now ranked as ordinary articles of diet, have appeared for the first time on our tables practically within the last generation. At the beginning of this century the cultivation of tomatoes, cucumbers, and other garden plants under glass was so small as not to be recorded; to-day the annual value of this industry exceeds five million pounds sterling. In the childhood of many of us the tomato was used only for pickling and the making of soups and sauces. Nowadays, thanks to cheap glass and facilities for keeping the temperature of glasshouses at a constant level, a million hundredweights of tomatoes a year from English gardens, another million from the Canary Islands, and not far short of a third million from the Channel Islands go to the making of salads, are consumed raw, or served in various appetizing ways. Five or six times as many bananas, again, are eaten now as was the case thirty years ago. The banana excited little interest before 1900, though the first box of this fruit came to this country about the middle eighties. Later a shipping company was formed for bringing bananas from Jamaica to Bristol, and now we spend three million pounds sterling on this product. As for apples, thanks now to methods of storing in ships which preserve their vitality during transport, we get apples all the year round. Not so long ago there was a part of the year (from April until the end of July) when apples were not forthcoming. Our own orchards supply three million hundredweights of apples annually, and seven or eight million hundredweights reach this country from the Dominions and elsewhere. Orange production is increasing enormously; wherever this popular fruit grows—as, for example, in Spain, Egypt, Palestine, and South Africa—increased plantations are being laid out, and within a year or two the imports of the orange bid fair to multiply exceedingly. Mr. Taylor exhibited a pipless orange, also a coreless apple, but said that this production, for which there was some demand, entailed a certain loss of flavour. The lecturer drew attention to the value of all these fruits, not so much as represented by calories, but in respect to vitamin content, "roughage," and mineral salts. He thought there could be no doubt that the increased consumption of fruit must be exercising a very beneficial effect upon the health of the people.

THE HONOURS LIST.

THE honours conferred on June 3rd, on the occasion of His Majesty's birthday, include a considerable number of awards to members of the medical profession; the full list of these will be found at page 1044. Our readers will share the general feeling of pleasure at the recognition which has been given to the services of those medical men who were concerned in the treatment of the King during his long illness—namely, Lord Dawson of Penn, Sir Humphry Rolleston, Sir Farquhar Buzzard, Sir Hugh Rigby, Sir Stanley Hewett, Dr. Francis Shipway, Dr. Robert Stanton Woods, Dr. H. K. Graham Hodgson, Dr. F. D. Howitt, Dr. L. E. H. Whitby, and Professor E. C. Dodds. Our colleagues in Australia will especially welcome the honours accorded to the Hon. Mr. E. C. G. Page, Commonwealth Treasurer, to Dr. Richard Stawell of Melbourne, and to Professor W. Colin Mackenzie, director of the National Museum of Australian Zoology, henceforth to be known as the Australian Institute of Anatomy. The principal Service distinction is the K.B.E. conferred upon Major-General Thomas H. Symons, formerly Surgeon-General, Madras, and now Director-General of the I.M.S. Although Dr. Robert Bridges, the Poet Laureate, long ago gave up the practice of medicine, his admission to the Order of Merit reflects honour upon the calling which first claimed the fruits of his pen.

THE annual general meeting of the Research Defence Society will be held at the House of the Medical Society of London, 11, Chandos Street, W.1, on Wednesday next, June 12th, at 3 p.m., with Lord Lamington in the chair. Professor A. V. Hill, F.R.S., will deliver the third Stephen Paget Memorial Lecture on "Enemies of knowledge." Tea and coffee will be served after the meeting.

THE KING.

ON May 31st it was announced from Windsor Castle that the King was confined to bed with a feverish attack. A bulletin issued on the following day stated that an abscess had formed on the right side of the chest, and was now draining; that His Majesty's general condition remained good; and that, though he would need to remain in bed, he would be able to transact public business. A later bulletin stated that the abscess was "so far following the normal course, which in the nature of things must be tedious." In accordance with the opinion of His Majesty's medical advisers, the Thanksgiving Service fixed for June 16th has been postponed.

The news of this interruption to His Majesty's recovery has been received with universal regret; but it does not give rise to anxiety, since the trouble has a local origin.

NINETY-SEVENTH ANNUAL MEETING

of the

British Medical Association,

MANCHESTER, 1929.

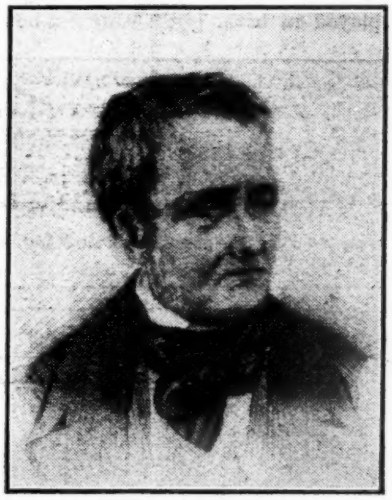
THE ninety-seventh Annual Meeting of the British Medical Association will be held in Manchester this summer under the presidency of Mr. Arthur H. Burgess, F.R.C.S., Professor of Clinical Surgery in the University of Manchester, who will deliver his address to the Association on the evening of Tuesday, July 23rd. The sectional meetings for scientific and clinical work will be held, as usual, on the three following days. The Annual Representative Meeting, for the transaction of medico-political business, will begin on the previous Friday, July 19th, at 9.30 a.m. The provisional programme for the nineteen Scientific Sections is published in the *Supplement* this week, and further details of the arrangements for the Annual Meeting will appear from time to time in later issues. We publish below the fourth of a series of descriptive and historical notes on Manchester and neighbourhood written for the occasion by Dr. E. M. Brockbank. The first article appeared on December 1st, 1928 (p. 1003), the second on January 26th, 1929 (p. 167), and the third on April 27th (p. 781).

THREE MANCHESTER LITERARY CELEBRITIES.

THREE widely read authors who were born or lived in Manchester—Thomas De Quincey, William Harrison Ainsworth, and Mrs. Gaskell—are specially interesting to us because their writings more or less intertwine with our medical history, fact or fiction.

THOMAS DE QUINCEY.

De Quincey was chiefly an imaginative essayist; he was born in Manchester in 1785, educated partly at the Grammar School, and spent most of his life, he said, in trying to get away from the town. But whatever his objection to Manchester may have been, it was not the cause of his opium eating. As a boy he knew Charles White and Thomas Percival, and had a certain amount to say about both which gives some insight into their personalities. White he met when he was attending professionally a lady to whom De Quincey was giving lessons in French. He writes of his visit to White's museum, about which he only remembered what he called the humanities in it—namely, a mummy and a skeleton. He tells us how one of White's lady patients left him £25,000 on condition that on her death he would have her body embalmed and put in a case with a veil over the face, and that once a year he and two witnesses of credit should withdraw the veil. The lady was placed in a common clock-case with the usual glass face, but a veil of white velvet obscured from all profane eyes the silent features behind. The clock he saw as a child and gazed on it with "inexpressible awe." Rumour named a certain lady as having left the bequest in her will, but a lawyer of Manchester about the end of the last century, after I had myself helped to perpetuate the rumour, found the lady's will at Chester, and there was nothing of the kind in it. However, the story suited De Quincey's taste for imaginative romance. The other humanity was the skeleton of a highwayman who had been executed for murder, and he interests us as he was a Knutsford man, Higgins by name, who formed the central character in Mrs. Gaskell's tale "The Squire's Story."



THOMAS DE QUINCEY.

Another note about White was in connexion with De Quincey's sister who died at the age of 9. She was of "premature intellectual grandeur," and White, who was specially interested in craniology, pronounced her head to be the finest in development of any that he had ever seen. It must have been an unusually large head, because De Quincey, not wishing to mislead his readers, says she died of hydrocephalus. De Quincey also gives us an interesting sketch of Dr. Percival, who attended him, his brothers and sisters in their childish ailments. They all liked him very much, but their mother disliked him equally, and feared his "tolerant" views on religious matters, which he used to discuss with her, Percival being a Unitarian.

De Quincey was a prolific writer, almost entirely for journals. His *Confessions of an English Opium Eater* are well known to medical readers.

HARRISON AINSWORTH.

William Harrison Ainsworth was born in Manchester in 1805, but lived most of his life in London. He was cousin to Dr. James Ainsworth, one of the early teachers of medical students here. In somewhat flamboyant style he wrote many very readable historical novels, the most widely known of which are *Guy Fawkes*, *Windsor Castle*, *Old St. Paul's*, *The Tower of London*, and *The Lancashire Witches*. Other tales about Lancashire incidents have a more local interest. Part of the action in *Guy Fawkes* takes place in Manchester, but that of the less known and less powerful *Manchester Rebels*, which has for its theme the '45, is almost entirely concerned with real and fictitious Manchester people, and the part they played in the Young Pretender's visits to the town on the march of the Highlanders cocking their bonnets to Derby, and during the army's retreat thence with fallen hopes.

Many young Manchester men joined the army, and the Manchester Regiment was formed of them. One of the Loyalist citizens was Dr. Peter Mainwaring, physician to the Infirmary, whose house, built in 1736, still exists in a fine state of preservation in King Street, and is a beautiful example of brickwork. It is now occupied by a branch of the District Bank. Amongst those who joined the Manchester Regiment was a son of Dr. Deacon, who had a small practice in the town, and Thomas Sydall. These, amongst other Manchester men, were hanged and quartered in 1748, and their heads sent to Manchester, where they were spiked on the first Exchange. There they remained as a warning to disloyal persons until 1749, when they

suddenly and mysteriously disappeared one night, having been removed (as we shall see in a moment) by a young Jacobite medical student, Edward Hall, afterwards surgeon to the Infirmary. They were buried in the Halls' garden at the top of King Street, and there they rested until the death of his sister, a staunch Jacobite, in 1828. When she knew for certain that she was dying she revealed the mystery by telling Dr. (afterwards Sir) James Lomax Bardsley, her medical attendant, the facts about the removal of the skulls and their burial, asking him to have them interred in consecrated ground, which he did, in St. Ann's churchyard.

A charming account of these times has been left us in her diary by a spirited Manchester girl, at heart an admirer of the Bonnie Prince, Elizabeth or Beppy Byrom, who is introduced into Ainsworth's novel amongst the incidents of the Scots' visit to the town. Her father, Dr. John Byrom, was a well-known literary man and poet, but not a medical man. He wrote the hymn "Christians Awake" and the celebrated blessing,

> "God bless the King, I mean the faith's defender;
> God bless—no harm in blessing—the Pretender;
> But who Pretender is, or who is King—
> God bless us all—that's quite another thing."

He was Jacobite, too, at heart, but evidently a careful one.

In those days many Manchester men, like many others, when drinking the toast of their King passed their glasses over a water jug or bottle—"the King over the water."

A romantic tale of Ainsworth's of local interest is *The Lancashire Witches*, which is concerned with the abortive Pilgrimage of Grace, its tragic consequences to John Paslew, last abbot of Whalley, and the part the witches of Pendle Forest were reputed at the time to have played in both.

ELIZABETH CLEGHORN GASKELL.

It is of general interest to know that claim is made in the tale for Hoghton Tower, near Blackburn, as the place where the "surloin" of beef—then known by such an anatomical description—was formally knighted by James I as being entitled to such an honour; and who will say that there is no "damned merit" in a sirloin, whatever one of the Victorian premiers might have thought of the K.G.? Almost as many places and kings lay claim to such an honourable act as there were birthplaces of Homer—Smyrna, Chios, Colophon, Salamis, Rhodos, Argos, Athenae, as they are stated in his metre. Unfortunately, in this matter Lancashire cannot lay claim with the same confident assurance that it so often does to having led in a national event, for it is stated with equal certainty that Henry VIII, after an episode with the Abbot of Reading, forestalled his sister's great-grandson and us in the matter.

HARRISON AINSWORTH.

There is no special interest to medical practitioners unless, may be, to psychologists, in the story of the Lancashire Witches; but perhaps it is only fair to repeat the warning to those visitors who have not been to our county before, of the last few lines of this romantic tale:

> "Jennet was the last of the Lancashire Witches. Ever since then witchcraft has taken a new form with the ladies of the county—though their fascination and spells are as potent as ever. Few can escape them—few desire to do so. But to all who are afraid of a bright eye and a blooming cheek, and who desire to adhere to a bachelor's condition, to such I should say, Beware of the Witches of Lancashire."

MRS. GASKELL.

The writer most identified with Manchester, and of most interest to us in recreation hours, was Elizabeth Cleghorn Gaskell, who was born on September 29th, 1810, in Chelsea. She was the daughter of William Stevenson, formerly a Unitarian minister, but later in life Keeper of the Records to the Treasury of London. He was a man of rare attainments, which his daughter inherited. Her mother was a daughter of Mr. Holland of Sandlebridge, near Knutsford, a member of a well-known county family. Many years of her early life were spent at Knutsford, which she has immortalized in her books, and in 1832 she was married there to the Rev. William Gaskell, minister of the Unitarian Chapel, Cross Street, Manchester. In 1844 she lost her only son, who died of scarlet fever. To divert her mind from grief at her great loss her husband suggested that she should try and write a story about her experience among the poorest classes in Ancoats, and this she did. *Mary Barton* was the result; and it was returned unread by the publishers to whom she first sent it. More successful on her second venture, the book was published anonymously and met with a great reception. She "awoke one morning to find herself famous," so to speak.

She wrote, in all, thirty-six long and short stories, all of which dealt with simple characters. Many of her tales are about the labour problems of her day, written with a heartfelt sympathy for the workers, but, as the masters thought, without fully appreciating their own difficulties in the hungry forties and during the great increase in the use of machinery in their factories. She lived all her married life in Manchester, but died suddenly and unexpectedly from heart failure when chatting with her daughters in 1865 at Acton in Hampshire, where she had just bought a house, after only a short period of ill health.

Mrs. Gaskell was related to doctors, and thereby hang three tales. Her uncle Peter Holland, who was the father of Sir Henry Holland, court physician and grandfather of the present Lord Knutsford, was a country surgeon. He resided at Sandlebridge and practised there and in Knutsford and the neighbourhood. It was at his house that Lord Clive spent some boyhood holidays, and where the story of his early daring originated, for he liked to terrify the Hollands by jumping from the ball on the top of one of the gateposts to its fellow on the other side. Mrs. Gaskell used to accompany Peter Holland on his rounds. Whilst she did not take him as her model for her finest medical character Dr. Gibson (one of her daughters saying that no two people could be more unlike each other), she could hardly have helped forming some of her knowledge of country doctors from Uncle Holland's practice and patients. A doctor is the chief character in her novels *Mr. Harrison's Confessions* and *Wives and Daughters*, and another is a prominent figure in *Cranford*, and all the scenes are sketched from Knutsford, Sandlebridge, and neighbourhood.

The first essay at portraying a country practitioner is in *Mr. Harrison's Confessions*, a short story of seventy pages or so. Here we have the experiences of a young doctor who began practice as assistant to Mr. Morgan, an elderly bachelor surgeon in a country town, with many spinsters amongst his patients. Mr. Morgan urged Mr.

Harrison in his visits to patients to strive to acquire an attentive anxious politeness, combining ease and grace with a tender regard and interest. This he did so well that within a few months he was supposed, by local gossip, to be engaged to three different ladies at one and the same time. Mr. Morgan was much perturbed and rather peevish at what he thought was Mr. Harrison's mismanagement of affairs, until he found that he himself was reported to be engaged to another lady. There was nothing for it but two sets of wedding bells, and so all ends happily.

The illness of a child and the anxiety which it causes in the village reflects the authoress's experiences of the death of her only son. The book was written some years before *Cranford*, and has the appearance of a prentice hand working at a subject which she later perfected. It introduces, partly as an unintentional mischief-maker, a student friend from London, somewhat of the Bob Sawyer–Ben Allen type.

Cranford is outstanding in literature for its delicate, kindly, and humorous description of the ways of life and foibles of elderly ladies, of aristocratic minds but ill-lined pockets. Into such a society she introduces, as a contrast, a breezy vigorous doctor, who "sups on bread and cheese and beer every night," the genteel society has reason to believe. As a further contrast he is called Mr. Hoggins, probably to emphasize the shock to the society's ideas of propriety when the wolf got into its fold and won the hand of its only titled lady, the widow of an impoverished Scotch baron. Not much is seen of Mr. Hoggins's practice, the main character in the book being the elderly Miss "Matty" Jenkins—and what character in literature can compare with her, with her simple, child-like faith, her trustful nature, and her genteel expedients to eke out her small income, nearly all lost for a time?

Her finest doctor character is Dr. Gibson in her most finished—but, alas! unfinished—work, *Wives and Daughters*. The scene is again Knutsford and neighbourhood. The late Sir Adolphus Ward, Master of Peterhouse College, Cambridge, wrote of the book:

"In *Wives and Daughters* Mrs. Gaskell's later manner asserts itself with genial amplitude and with irresistible grace and ease, ranging from the most charming playfulness of humour to a pathos which softens, subdues, and endears. Were it a fragment, it would be invaluable for its beauty; but, complete as it is, to all intents and purposes, it can hardly be refused recognition as Mrs. Gaskell's masterpiece."

Much of the book is about the doctor's troubles with the womenfolk of his second marriage, and of the contrast in nature between his stepdaughter and his own child Molly.

Professor George Saintsbury, in his preface to an edition of *Pride and Prejudice*, says:

"In the novels of the last hundred years there are a vast number of young ladies with whom it might be a pleasure to fall in love; there are at least five with whom, as it seems to me, no man of taste and spirit can help doing so. Their names are, in chronological order, Elizabeth Bennet, Diana Vernon, Argemone Lavington, Beatrice Esmond, and Barbara Grant. I should have been most in love with Beatrice and Argemone; I should, I think, for more occasional companionship, have preferred Diana and Barbara. But to live with and to marry, I do not know that any one of the four can come into competition with Elizabeth."

Each man to his fancy, but many a humbler critic must rejoice that the professor did not want Molly Gibson for his true love.

George Sand observed to Lord Houghton shortly before her own death:

"Mrs. Gaskell has done what neither I nor other female writers in France can accomplish; she has written novels which excite the deepest interest in men of the world, and yet which every girl will be the better for reading."

Her life of Charlotte Brontë is one of the masterpieces of biographical writing. She pictures so well the life at Haworth Vicarage, where the three frail sisters worked in a small room, in a house bordered on two sides by an extensive graveyard, with a father so dyspeptic that he had all his meals by himself—and the less he saw of the family the better was he pleased—and a brother who spent most of his time in the nearest public-houses. Who that has seen Haworth Vicarage can wonder that its novels, with the exception of *Shirley*, are so full of gloom and shadow, or can wonder that the three sisters all died of a decline? What a contrast there is between its books and the sunny, cheerful, humorous ones of the Manchester clergyman's home written "by one of the most charming, exquisite writers of English fiction that has ever lived, in grace of her style and the quaintness of her humour reminding one of Charles Lamb," to quote another critic writing in the *Nineteenth Century* (1897).

It is of some interest to know that Charlotte Brontë brought her father to Manchester to consult William James Wilson, one of the founders of the Eye Hospital, about his eyesight.

Mrs. Gaskell has not only left an endearing and abiding memory with Manchester and other readers, but the deep feeling for suffering, shown in all her novels, has been given a practical memorial in Manchester by her daughters, who founded and endowed the Gaskell Nursing Home for the benefit of surgical patients between the hospital and the expensive nursing-home classes.

The portrait of de Quincey is reproduced from A. and C. Black's 4th edition of his writings, and that of Ainsworth from Chambers's *Encyclopaedia of Literature*. The portrait of Mrs. Gaskell was supplied by the Warwick Brookes Studios.

Ireland.

Parliamentary Medical Representation.

Of the four members representing the Queen's University, Belfast, in the new Parliament of Northern Ireland, one, Mr. R. J. Johnstone, M.D., F.R.C.S.Eng., is a medical man. He is a member, and was chairman of the commission appointed by the Government of Northern Ireland to take evidence on the Poor Law system and cognate subjects. He will have the best wishes of the profession, who feel that their interests are safe in his hands. Dr. Morrison, co. Londonderry, who, to everyone's regret, was prevented by ill health from allowing his name to go forward, died during the election.

Mr. Thomas Sinclair, C.B., M.D., F.R.C.S.Eng., Emeritus Professor of Surgery in the Queen's University, Belfast, who has again been returned unopposed as the University representative in the Imperial Parliament, commands the confidence both of the University authorities and of the medical profession in Ulster.

Annual Report of the Rotunda Hospital.

Reference was made in a leading article in the *Journal* of May 18th (p. 916) to the encouraging decline in maternal morbidity in the British Islands during the last twenty years, and it is of interest to note in this connexion the statement in the recently received annual report of the Rotunda Hospital, Dublin, that the percentage rates of morbidity during the year ending October 31st, 1928, fell to 3.3—a "record" in the history of the hospital. This figure was calculated according to the British Medical Association standardization; the corresponding "Rotunda rate" was only 2.1 per cent. The Master of the Rotunda, Dr. Bethel Solomons, remarks that so excellent a result was not obtained in palatial buildings or by any complicated means; he attributes it to the zealous care and loyal co-operation of the medical and nursing staffs. He adds that the hospital was fortunate enough to escape any influenza epidemic, and he thinks this freedom was probably assisted by the exhibition of printed notices in the wards asking husbands and other visitors to refrain from coming when suffering from colds. During the year there were only 69 morbidity cases, of which 33 were associated with operative deliveries, so that only 36 non-operative deliveries were morbid out of 2,346 women admitted to the wards of the hospital and 2,062 confinement cases. A total of 1,717 patients received attention in their own homes, and the number of abnormalities in the extern maternity service showed an increase. Dr. Bethel Solomons remarks that, while this type of case is better treated in the wards of a hospital, some of these patients are found to be too ill to be moved, and it is important, moreover, that students should be taught how

to deal with difficulties under more adverse conditions than are to be found inside a maternity hospital. There has been delay in constructing a proposed new operating theatre on the north side of the institution. It is intended to erect a two-storied building, the ground floor of which will provide the much-needed accommodation for nurses and maids, while the first floor will be devoted to the theatre and sterilizing arrangements. It is hoped to increase the accommodation also for ante-natal patients if an adequate response is received to the appeal being made for financial support. The annual report contains also the usual interesting clinical details and tabular statements; on the gynaecological side the number of plastic vaginal operations was large. For the first time in the history of the hospital a report of the *x*-ray department is submitted, in which the immense value of its services is emphasized.

Tuberculosis Scheme for County Wicklow.

The County Wicklow Board of Health has recommended for the approval of the county council (provided it can be financed without any undue burden on the rates) a tuberculosis scheme in County Wicklow, as outlined by Dr. S. Berry, Local Government Medical Inspector. Dr. Berry said that in County Wicklow there were about 800 cases of tuberculosis, with an annual death rate of between 80 and 90 persons. In the County Home, County Hospital, and Sanatorium 23 uninsured persons were receiving treatment; 24 insured persons were getting institutional treatment. The gross cost of that treatment in the year—not all off the rates—was £1,059, for which 83 cases were treated. They were treating fewer cases in Wicklow than were actually dying from the disease, and their death rate was one of the highest in Ireland. He said a central dispensary could be established in Wicklow town, with branches at Bray, Arklow, Blessington, Newtownmountkennedy, Baltinglass, and Tinahely. These dispensaries would give opportunity to all persons in the county suffering from tuberculosis to obtain treatment from a tuberculosis officer and the services of a skilled nurse. Newcastle Sanatorium could be made available, and circulatory hospitals, such as the Memorial Hospital at Arklow, Wicklow Hospital, and Dublin, could be made available for treating surgical cases. For bad cases Shillelagh Fever Hospital could be utilized.

Antituberculosis Campaign.

At the recent Congress of the Royal Institute of Public Health at Zürich, Sir William Thompson, ex-Registrar-General for Ireland, in his presidential address to the Tuberculosis Section, drew attention to the results ensuing from the antituberculosis campaign initiated in Ireland in 1906. He stated that in the Free State there were 4,138 fewer deaths from tuberculosis in 1928 than in 1906, and that there were 40,000 to 50,000 fewer persons suffering from the disease. He drew attention to the important work of the National Health Association in Ireland.

Health Statistics in Northern Ireland.

During the quarter ending March 31st, 6,324 births were registered in the twenty-seven Superintendent Registrars' districts in Northern Ireland, this number representing an annual birth rate of 20.2 per 1,000 of the estimated population. The comparable figure for England and Wales is 21.0, and for Scotland 21.9. The rate in Northern Ireland is 0.8 below that for the corresponding quarter in 1928, and 2.6 below the average rate for the first quarter of the ten years 1919 to 1928. The deaths registered during the quarter numbered 7,708, or an annual rate of 24.7 per 1,000 of the estimated population. This rate is 7.6 above that for the corresponding quarter of 1928, and 5.5 above the average rate for the first quarters of the ten years 1919 to 1928. The urban mortality from the principal epidemic diseases recorded during the quarter was equivalent to an annual rate of 1.4 per 1,000 of the population, comparing with a figure of 0.4 for the remainder of Northern Ireland.

Cinematographic Demonstration.

The president and council of the Leinster Branch of the British Medical Association have issued invitations to members and non-members of the Association to be present at a cinematographic demonstration of living tissue cells cultivated *in vitro*, including the action of radium on them, to be given by Dr. R. G. Canti (St. Bartholomew's Hospital) in University College, Earlsfort Terrace, Dublin, on Friday, June 14th, at 8.15 p.m.

Scotland.

Reconstruction of Edinburgh University Medical Buildings.

REFERENCE was made in the *Journal* of May 11th (p. 879) to the decision to reconstruct the University New Buildings in Teviot Place, Edinburgh, at a cost of £60,000. It has now been announced that promised gifts for this purpose include one of £35,000 from the Rockefeller Foundation, and another of £20,000 from Sir William Dunn's trustees, making a sum of £55,000 in all. This, together with other money which is available, now secures the carrying out in its entirety of a scheme drawn up by the architect, Mr. Balfour Paul, in consultation with the heads of the departments concerned, and the work will be begun in the summer vacation. The external aspect of the buildings, erected in 1880 from designs by the late Sir Rowand Anderson, will remain unaltered. Certain portions of the reconstructed building will in future be associated with the name of Sir William Dunn in recognition of the generous gift from his estate.

Puerperal Pyrexia in Aberdeen.

The report on the incidence of puerperal pyrexia in the city of Aberdeen during 1928, included in the annual report of the medical officer of health, is worth studying in connexion with the official document issued by the Scottish Board of Health on maternal mortality in Aberdeen, 1918–1927,[1] which was the subject of an article in our columns on January 12th (p. 79), and of editorial comment on January 19th (p. 115). During the year 73 cases of puerperal pyrexia, of which, however, 25 were found to be due to bacilluria, pyelitis, mastitis, etc., were notified as having occurred in the city. Of the remaining 48 cases of true puerperal sepsis, 8 occurred in the practice of midwives, with 1 death; 21 in the practice of medical practitioners, with 4 deaths; and 19 in the practice of public institutions, with 5 deaths. Forty-three cases were treated in public institutions and 5 at home. In 7 of the cases pregnancy terminated in abortion, with a fatality in only 1 case. In January an outbreak of septicaemia occurred in a maternity institution with twenty maternity beds and eight beds for ante-natal cases. On investigation it was found that twelve mothers had developed puerperal fever within a period of five weeks, and that four had died, two with other grave puerperal complications. Bacteriological examination proved the outbreak to be due to haemolytic streptococcal infection. At the same time there was an outbreak of icterus neonatorum, which resulted in the deaths of seven infants; in two of these cases post-mortem examinations were carried out and the cause of death was shown to be septicaemia due to *Streptococcus haemolyticus*. Some seventeen mothers who had been in contact with the cases of puerperal sepsis were subjected to bacteriological examination. Haemolytic streptococci were isolated from both the uterine and throat cultures of one of the contacts, from the uterine cultures of four contacts, and from the throat cultures of three others. Throat cultures obtained from the staff of twelve nurses gave positive results in five. It was not possible to determine the original source of the infection, though the admission of a case of septic abortion just before the outbreak was regarded with suspicion. Unfortunately the infection had spread and the outbreak was fully developed before the intervention of the health department was able to put an end to it. The Aberdeen statistics of puerperal sepsis indicate that in the institution concerned similar outbreaks of puerperal sepsis, spread by gross contagion, had occurred in 1922 and in 1924.

[1] Report on Maternal Mortality in Aberdeen, 1918-27, with Special Reference to Puerperal Sepsis. 1928. H.M. Stationery Office. Price 1s.

Sanitation and Health.

At the annual conference of the Sanitary Inspectors' Association held recently at Paisley, Mr. Allan Ritchie, chief sanitary inspector, Edinburgh, gave a presidential address on the Chadwick outlook, surveying this pioneer sanitarian's influence. The records, he said, showed wonderful achievements in the past fifty years, during which the death rate had been halved. Some infectious diseases, which carried off thousands half a century ago, were now almost unknown. Children had a better chance of life, and there was less tendency to ill health in later life. The speaker was convinced that the real major health services of the present day were not so much hospitals and clinics as well-constructed sanitary dwellings, open spaces with sunlight, plentiful water supply, good food, and playing fields. Slum clearance must be one of the main efforts of the future. The purity of water and milk supplies had now reached a very high level, but it was also important that high standards should be reached in purity of food and air supplies, which at present showed far too much avoidable contamination. He thought that it was surely time that more strenuous efforts were made to prevent the smoke screen which hindered the action of health-giving rays.

Harveian Festival at Edinburgh.

The one hundred and forty-second Harveian Festival was held in the Royal College of Physicians of Edinburgh on May 31st. This year's president of the festival, Dr. Lewis Bruce, M.C., of Murthly, delivered the oration on "Life and Customs in the Time of William Harvey," drawing a graphic picture of domestic and social customs and of political events in the seventeenth century. At the banquet which followed a number of neophytes were initiated. The toast of "The Immortal Memory" was proposed by the president, and the minutes of the previous year's proceedings were read by Mr. J. W. Dowden. Dr. Douglas Miller proposed the health of the guests, and a reply was made by Lieut.-Colonel J. Cunningham, C.I.E., a son of the late Professor D. J. Cunningham, who has recently been appointed to the post of superintendent of the Astley-Ainslie Convalescent Institution in Edinburgh. The president's health was proposed by Dr. Derek Melville Dunlop. It was announced that next year's president would be Professor G. Lovell Gulland.

Central Midwives Board for Scotland.

At the examination of the Central Midwives Board for Scotland, held simultaneously in Edinburgh, Glasgow, Dundee, and Aberdeen, just concluded, out of 154 candidates who appeared for examination 133 passed. Of the successful candidates, 23 were trained at the Royal Maternity Hospital, Edinburgh; 55 at the Royal Maternity Hospital, Glasgow; 7 at the Maternity Department, Royal Infirmary, Dundee; 4 at the Maternity Hospital, Aberdeen; 16 at the Elsie Inglis Memorial Hospital, Edinburgh; 6 at Stobhill General Hospital; 6 at the County Maternity Hospital, Bellshill; 6 at Barshaw Maternity Hospital, 2 at the Eastern District Hospital, 2 at the Western District Hospital, Glasgow; and 2 at the County and City of Perth Royal Infirmary.

England and Wales.

Medical Education in South Wales.

THE long dispute between the Welsh National Medical School and the Cardiff Royal Infirmary came to an end on May 29th, at a fully representative meeting of the Infirmary board of management, when an agreement between it and the Cardiff College and Welsh National University authorities was accepted unanimously. For some time a draft scheme of co-operation has been under consideration, and its salient points were indicated in our issue of December 29th, 1928 (p. 1187). There were many difficulties to be overcome, and the final agreement, which contains twenty-four paragraphs, is in some degree a compromise, a fact which indicates the highly commendable desire on both sides to yield as far as may be legitimate in order to bring to a close a period of uncertainty and disorganization which has lasted about twelve months. It is now agreed that the medical school shall be conducted on the "unit system," and have at its disposal for clinical teaching all the existing beds of the Infirmary. Each professorial unit or clinic will rank as one of the hospital clinics or firms. Beds are to be allocated to the University professors of the College, who thereby become honorary members of the Infirmary staff, the professor of medicine receiving thirty beds, the professor of surgery forty-six, and the professor of obstetrics and gynaecology eleven. The professor of pathology, on appointment, will similarly become an honorary member of the Infirmary staff and an honorary pathologist to the institution enjoying facilities at the Infirmary for the necessary pathological work in connexion with the teaching. A board of clinical studies is to be formed, consisting of all the recognized clinical teachers and part-time lecturers who are members of the honorary medical staff of the Infirmary; the lecturers in radiology and anaesthetics, together with the professors of medicine, surgery, obstetrics and gynaecology, and pathology; and such other teachers as may be recommended by the board and approved by the authorities of the school. The board will organize the clinical teaching of the non-professorial clinics at the Infirmary to conform to the regulations and courses of study required for the degrees and qualifications of the University of Wales and other licensing bodies. It will have the right of direct access to the board of medicine and will be able to report to it on any important matter connected with the clinical teaching at the University. One practical difficulty has been settled by making a change with regard to appointments—especially of senior assistants—and arranging for their due recognition as members of the staff of the hospital. The agreement had been previously approved by the councils of the University College and University; its ratification by the Infirmary board, therefore, completed the necessary formalities, and it is hoped that the school will now be able to open its doors again to all classes of students in September and resume its interrupted development.

Professor Wardrop Griffith.

The Court of the University of Leeds has recommended the conferment of the honorary degree of doctor of science on Dr. T. Wardrop Griffith, who was professor of anatomy in the University from 1887 to 1910, professor of medicine from 1910 to 1925, and representative of the University on the General Medical Council from 1918 to 1927. Dr. Wardrop Griffith graduated M.B., C.M. in 1882 at the University of Aberdeen, and proceeded M.D. in 1888; the honorary degree of LL.D. was conferred upon him in 1922. On graduation he was appointed demonstrator of anatomy and, subsequently, resident medical officer to the General Infirmary at Leeds; he joined the honorary staff in 1892 and was elected full physician in 1905, becoming a member of the consulting staff twenty years later. He is also consulting physician to the Leeds Public Dispensary. During the war he was stationed at the 2nd Northern General Hospital, and was promoted brevet lieut.-colonel in 1918; he was honorary consultant on cardiac affections for Yorkshire to the Ministry of Pensions. In 1918 he received the honour of Companionship of the Order of St. Michael and St. George. He is the author of numerous articles on diseases of the heart and circulatory system.

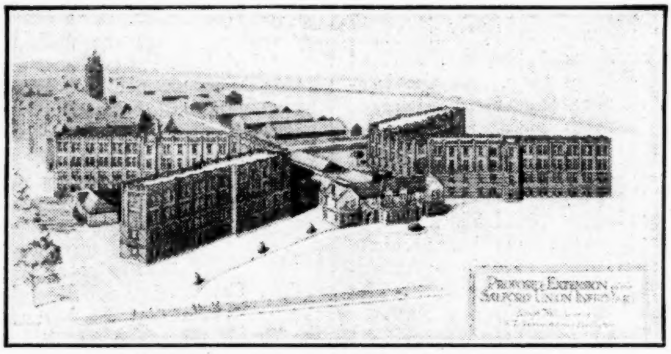
University College Hospital Medical School.

With the close of the academic year 1927–28 University College Hospital Medical School has completed one hundred years of its existence, first as part of the medical faculty of University College, and then, for the last twenty-one years, as a separate school for advanced medical studies controlled by the corporation of University College Hospital. The dean, Dr. A. M. H. Gray, records in his annual report that during the session the total entry of students was 152, of whom fifty were students taking the full course; and that the total number of students in attendance was 269. The construction and rearrangement of the wards in the hospital is now completed, making some 520 beds available for clinical instruction. Of these, 415 beds (357 allocated to adults and 58 to children) are in the main general hospital, 75 in the obstetric hospital, and 31 (20 for adults and 11 for children) in the Royal Ear Hospital. There

are beds specially set aside for the treatment of skin cases, venereal cases, tuberculosis, ophthalmic cases, and neurological and psychological cases. The new clinical laboratories, which have been formed by the reconstruction of the old operating theatres in the hospital, are ready for use. All floors in the central block of the hospital have been reconstituted, and on each of the first, second, and third floors a large central clinical laboratory has been built, with two smaller rooms annexed for special work. These groups of laboratories, which serve the wards (four on each floor, with which they are in close relation), have been allotted two to the medical department and one to the surgical. On the fourth floor has been established a central record room, with side offices for the medical and surgical registrars. The addition of these laboratories not only renders possible routine and special clinical investigations by the students and resident officers without interference with the more advanced work carried out by the clinical pathologist, but it allows of pathological demonstrations to be combined with ward visits in a way that was not previously attainable.

Extension of Salford Union Infirmary.

Plans have been approved for the extension of the Salford Union Infirmary, situated at Pendleton on a secluded spot overlooking a stretch of country towards Worsley. The original building, erected nearly fifty years ago, can no longer meet the needs of the city, whose population is now about a quarter of a million, and the pressure on its accommodation in recent years has been so great that extension has become imperative. The new building, for which the proposed schemes have been sanctioned by the Ministry of Health, will contain 1,500 beds, as well as 500 beds in adjoining buildings for the use of aged and infirm persons. It will comprise a children's hospital, wards and theatres for the treatment of surgical cases, accommodation for paying patients, *x*-ray rooms and a radiological treatment room, and a separate block of buildings for the nursing staff. The wards have been designed to admit the maximum amount of sunlight, and each block will have a flat roof to which patients can be easily moved to enable them to benefit by fresh air whenever the weather permits. On the ground floor are examination rooms for both sexes, with bathrooms attached; there is a separate entrance for patients, with a covered portico for ambulances. The radiological department is situated on the ground floor, and comprises two *x*-ray rooms and dressing rooms, a waiting hall, a dark room, and a film-viewing room; there are also two diathermy and *x*-ray treating rooms, and a sunroom. In the basement is accommodation for the storage of electrical apparatus connected with the *x*-ray instruments, so as to avoid any noise being heard during treatment. Two large operating theatres, facing north, occupy the ground floor of the operating block; one of these can be darkened for special ophthalmic and other operations. The new buildings will be connected to the existing hospital by extension of the corridor at the western end. This new addition constitutes only a part of the contemplated scheme, which will eventually comprise a children's hospital, accommodation for the treatment of acute surgical cases, sufficient room for the reception of paying patients, and, in conjunction with the existing buildings, which contain 850 beds, will provide for the treatment of all other cases of sickness and accident for which public hospital accommodation may be necessary. The existing separate accommodation for a nursing staff, numbering about 250, will be extended to meet the additional requirements. The hospital will serve the city of Salford only, when the Local Government Act, 1929, comes into force.



PROPOSED EXTENSION OF SALFORD UNION INFIRMARY.

National League for Health, Maternity and Child Welfare.

The National League for Health, Maternity and Child Welfare, which went into voluntary liquidation in order to facilitate a certain measure of reorganization required by the Carnegie Trustees, came to an end on December 31st last. It has transferred all its functions and its assets to its two daughter societies—the Association of Infant Welfare and Maternity Centres, and the National Association for the Prevention of Infant Mortality. In its report for the year ended December 31st, 1928—the last it will publish—is included a general survey of the league's activities since the date of its foundation in 1905. The league began life under the title of the National League for Physical Education and Improvement, with the aim of uniting all existing associations and societies devoted to child welfare, the training of children and youths, and strengthening the population physically, mentally, and morally. From the first it found itself obliged to promote legislation in aid of its objects, and in 1905, having failed to secure from Mr. Birrell, then President of the Board of Education, a promise to incorporate provision for the medical inspection of school children in the new Education Bill, it devoted itself to propaganda work, aimed to this end, which culminated in 1907 in the passing of the Education (Administrative Provisions) Act. The necessity for obtaining a pure milk supply was urged by the league from 1906 onwards, and in 1910 it inaugurated a clean milk campaign, which prepared the way for the passage of the Milk and Dairies Act in 1915. By the passing of the Fabrics (Misdescription) Act in 1913, the league, single-handed, secured legislation to minimize the loss of life due to the wearing of inflammable makes of flannelette. It played an active part in promoting the Maternity and Child Welfare Act, 1918, and the Ministry of Health Act, 1919. In pursuance of its policy to co-ordinate societies having aims similar to its own, it succeeded in 1917 in uniting in a single federal movement no fewer than nine societies to form the National League for Health, Maternity and Child Welfare. Among the subjects investigated and reported on by the league may be mentioned health visiting, infant welfare centres, organized play, sick clinics, open-air clinics, ante-natal clinics, artificial light clinics, and dental clinics. In 1914 and throughout 1915 workers trained by the league, acting in co-operation with the local health authorities, succeeded in starting 154 new infant welfare centres, of which 27 were entirely municipal; in 1915 it initiated six experimental ante-natal clinics, and in the same year it set on foot an extensive anti-fly and vermin campaign; in 1918 it opened the still flourishing residential home for babies of the middle class whose mothers were dead or whose fathers were unemployed after the war. Four maternity homes set up by the league are actively engaged in good work. Other ventures have been the establishment in 1919 of a small nursing home for mothers with babies, in 1920 of the Tired Mothers' Holiday Fund, and in 1922 of a guest house for mothers with young babies. The National League has come to an honourable end, full of vigour and good repute, and solvent.

School Medical Inspection in Bournemouth.

Dr. H. Gordon Smith, in his annual report for 1928 as school medical officer for Bournemouth, remarks that there appears to be evidence of an increasing influence for good during pre-school life, since the proportion of entrants found to require treatment in 1928 was 10 per cent., as compared with 12 per cent. for the previous year. He attributes this to the work of the maternity and child

welfare centres. Similarly, the percentage of those leaving school who require treatment has dropped from 17 to 15, and the school medical service seems to be responsible for this improvement. Dr. Gordon Smith emphasizes the point that a serious gap exists in the care of the health of children during the two or three years before they enter school, and regrets that the nursery schools foreshadowed by the Education Act of 1928 have not yet materialized. Many children admitted at the age of 5 have physical defects which could have been either prevented or cured. A certain amount of the defective vision of children is thought to be due to inadequate window space and placing in some schools, where such defects have been found to be more common than in the better planned and more hygienic schools; regrouping of desks will not solve the difficulty, in Dr. Gordon Smith's opinion. The rarity of rickets in Bournemouth is attributed to the large amount of sunshine, purity of the atmosphere, the number of parks and open spaces, and the housing, which is for the most part good. There has also been improvement in the spread of knowledge about diet and general health matters. Children wishing to be employed out of school hours are examined by the assistant school medical officer with reference to their physical fitness to undertake work. In all satisfactory cases certificates are granted stating that the employment will not be prejudicial to the child's health or physical development, and will not interfere with education. The children are also examined at the request of the Juvenile Employment Committee with regard to their physical fitness to undertake a specified employment on leaving school.

Correspondence.

THE CLEVELAND DISASTER.

SIR,—The *X*-Ray and Radium Protection Committee met this afternoon under the chairmanship of Sir Humphry Rolleston. It is the intention of this committee, as further facts reach it, to pursue investigation into the whole question of possible danger from *x*-ray films, and to draw up such recommendations as are considered advisable.

In the meantime, the committee makes the following common-sense suggestions:

1. Care should be taken to ensure that *x*-ray films, whether exposed or unexposed, are stored and handled in such a manner as to reduce to a minimum the danger of fire.
2. Films should not be left lying about, but should be stored in filing cabinets or cupboards in such a way as to limit the number of films actually lying open during reference.
3. On no account should smoking or naked lights be permitted in proximity to any film store.
4. In the case of large hospitals or institutions where considerable numbers of films may be accumulated, a special store, preferably isolated, should be arranged solely for such films.

—We are, etc.,

SIDNEY RUSS,
STANLEY MELVILLE,
Honorary Secretaries.

London, W.1, May 29th.

"YEAST AND PUFFERY."

SIR,—I observe a paragraph in your issue of April 27th (p. 780), headed "Yeast and puffery," in which I am greatly interested.

I presume that this paragraph refers to advertisements which are appearing every week in some thirty to forty magazines and periodicals published in the United States and in Canada. I enclose one of the last I have seen, published this month, "featuring" a medical man of repute in Great Britain who, I had imagined, could not possibly have been guilty of such bad judgement.

I may say that great pressure was brought to bear on me to allow my photograph and opinion to be published as an advertisement to further the interests of this business concern. A considerable sum of money was offered in payment. Needless to say, I declined.

Because of the numbers of prominent men in various parts of the world who have allowed their names to appear already, or in future issues of these periodicals, I am tempted to ask, "Have the ethics of our profession changed?"

From my point of view it seems reprehensible to prostitute the good reputation of the profession by any of its members sanctioning the use of their names for commercial purposes. Of course, it is a cheap way to earn notoriety, but it leaves a nasty impression, even if only because everyone knows that such advertisements are paid for. As your paragraph indicates, right-thinking people regret to see such "puffery," which brings the profession into ridicule. Where will it end? The names and reputations of those who had yielded to temptation were used as a lever to try to get me to yield also. "If these famous men have done it, why should not you?" I will not insult the general practitioner, be he town or village doctor, by suggesting that he may now be influenced by bribes from his grocer or butcher to give his name in support of locally made candy or sausages, and so forth. But the difference is only in degree.

I feel, further, that this trafficking for support of specialists of repute by business concerns for their own gain will, unless it is nipped in the bud (already a large one), be disastrous to the interests of the public for whom the medical profession has assumed health guardianship, and will be equally disastrous in the dishonour accruing to that profession.—I am, etc.,

HENRY M. W. GRAY.

Montreal, May 21st.

PUERPERAL SEPSIS AND THE GENERAL PRACTITIONER.

SIR,—I have been ten years in private practice. My practice is of the mixed town and country kind, and includes all classes. In the ten years I have attended 550 maternity cases. My experience may be worth relating, as it includes cases attended in the maternity ward of the Westmorland County Hospital, in a nursing home, and in private houses. My patients include an abnormal proportion of difficult cases transferred by other doctors.

I have notes of six cases of puerperal sepsis, and they present features which call for explanation.

Case 1.—The baby was born before the arrival of doctor or nurse. The patient was a multipara. There had been no examination and no laceration. She was removed to hospital; nothing was found in the uterus, and this patient, after a long period of pyrexia, eventually recovered.

Case 2.—This case was delivered in a nursing home. A multipara, she delivered herself without intervention by doctor or nurse, the baby being born as I entered the room. In this case the patient had a slight cold and a temperature of 99° on admission. On the third day she had a rigor; her pulse and temperature rapidly rose, and the case soon presented all the features of a virulent septicaemia. This case terminated fatally after developing multiple pyaemic abscesses.

Case 3.—I was asked to see this case by a colleague. He told me that the baby was born in the house before he arrived, and he was met at the door by a hysterical patient, carrying the baby in her arms, and the placenta *in situ*. She was removed to a nursing home, the temperature when I saw her on the fifth day being 104°. Examination revealed a hard band of thrombosed veins, stretching, in the base of the left broad ligament, from uterus to pelvic wall. No laceration was found in the cervix and nothing in the uterus. Again, after a prolonged period of pyrexia, this patient recovered. In her case septic tonsils and bad teeth were both present.

Case 4.—This case I was asked to see by a colleague in a remote country practice. It was a forceps case conducted in a farmhouse. The temperature rose on the third day, and when I saw the patient she presented a picture of septic infection. She was removed to hospital. No laceration was found, and nothing retained. A catheter specimen of the urine was obtained; pus was found in it, and culture showed it to be heavily infected with *B. coli*. This patient eventually made a good recovery.

Case 5.—This was a bad case of total placenta praevia, transferred to me by a colleague. Repeated haemorrhages had taken place, and, in view of the fact that the mother was an elderly primipara and rather small, it was decided that Caesarean section offered the best chance for both mother and child. The vaginal examination was made in the home under strict surgical precautions, and the vagina and cervix were cleaned with spirit and iodine before operation. The operation was performed at 11 a.m. I should say that the patient was a week under observation, and no temperature was recorded before operation. At 6 p.m. the

temperature was 102°, and she ran a temperature for five weeks, developing a pyaemic abscess in the left thigh. The uterus involuted normally, and the wound healed by first intention.

Here was a case where, clearly, an infected clot had been disturbed in separating the placenta, and septicaemia resulted. The obvious conclusion, in the light of present teaching, is to say that the placental site had been infected from without. Well, it may have been, but I doubt it. Examination was conducted under the strictest precautions, the placenta could not be felt through the cervix, and, in view of the fact that the teeth were in a very septic condition, I have little doubt that they were the cause of the trouble.

Case 6.—This case is at present under my care in the Westmorland County Hospital. Again the baby was born before I arrived, and no examination had been made. On the third day the patient had a rigor, and rapidly presented the picture of an acute septic infection. Nothing was found in the uterus on examination, but a catheter specimen yielded a urine heavily loaded with *B. coli*, and containing a few round and epithelial cells. Here we have to deal with, apparently, a *B. coli* infection of the kidney, although the patient did not complain of the lumbar pain so commonly associated with that condition. She, too, is making a good recovery.

Now the present teaching is that puerperal sepsis is a preventable disease. We are told that if all births were conducted on strictly surgical lines under good conditions puerperal sepsis should not occur, and the practitioner of to-day is roundly accused of incompetence and of not knowing his job. In other words, the dictum is that sepsis is introduced from without.

I have mentioned my cases of puerperal pyrexia and septicaemia. They are few in number, but each tells a story of infection from within. What of the cases I have successfully delivered under bad conditions? I have one case in my mind where I delivered with forceps a small woman of four living children in a farmhouse, under hopeless conditions from the point of view of maintaining surgical asepsis. Why, why does such a case not go septic? Again, I have twice performed that dreadful operation craniotomy in country cottages, when I was called in to find the patient had been many hours in labour, the water drained away, and a face presentation impacted in the pelvis in one case and the head above the brim in the other. Time and time again, if infection were brought from without, as we are taught, I have had cases which should have developed sepsis, the type of case with which every practitioner is familiar, where there are a deficient water supply, bad light, insanitary conditions, and inadequate help. Why not?

Again, we are told that maternal mortality has remained constant in spite of the advance in medical science. Now no one will deny that the medical man of to-day is much more surgically clean in the conduct of his cases than his predecessor of forty years ago. Surely, if the doctrine of infection from without is true, we should have seen some indication in the mortality figures. Does the experience of surgery offer any clue to the source of infection in puerperal sepsis? I have operated on 150 cases of acute appendicitis in the last three years. In that series I have had two cases complicated in convalescence by a virulent infection of the kidney with *B. coli*, obviously a haematogenous infection. Here we have a blood infection arising from a focus of local sepsis, and, curiously enough, it closely agrees with my percentage of puerperal sepsis, suggesting a haematogenous origin of puerperal sepsis.

No, as a general practitioner I feel we are not getting fair treatment. If the doctrine of infection from without were true the mortality figures would be vastly higher, and I further believe that teeth, tonsils, and bowels are responsible for more puerperal sepsis than ever resulted from unskilled examination.

We shall not reduce puerperal sepsis by talking piously about improving the education of the general practitioner and providing more and better nurses. By all means let our professors and mentors pursue those laudable objects; but they have been doing so for twenty-five years with no result discernible in statistics. But if a "humble" general practitioner may presume to suggest, let us concentrate on ante-natal work, abolish septic teeth, septic tonsils, and constipation. Let us provide the necessary accommodation and care for the difficult cases in hospital, and I venture to say that the remainder, if healthy at the time of delivery, will take no harm even under the worst of home conditions.—I am, etc.,

Kendal, May 20th. COLIN M. CRAIG, M.D., D.P.H.

ANTE-NATAL CARE.

SIR,—The able article by Sir Henry Simson on maternal mortality in childbirth, in the *Journal* for May 11th (p. 869), should do a great deal of good. But will it? No; for the simple reason that, speaking generally, women are wholly ignorant about ante-natal care. The one thing needful is to tell all women (and men) quite plainly that the time to see the doctor is before the confinement and not at the last minute.

It is cruel that this life-saving care is within the reach of every woman and yet entirely concealed by the mysterious and repellent name of "ante-natal clinic." Women do not know what this means. The general public has the vaguest ideas about ante-natal care, birth control, and abortion; it imagines they are all one and the same, and a rather doubtful proceeding. When we talk plain English and call them by some simple and attractive name, such as centres (or welcomes) for expectant mothers, women will understand at once and ask for advice. I have been for years past telling all women I meet about this; and I find that all classes are ignorant about it and very thankful to learn.

About a year ago, at the Royal Society of Medicine, a speaker raised a laugh by a casual allusion to some colonial officials who thought ante-natal care "was Marie Stopes's ideas." I did not laugh, for I understood at once that the same confusion between "ante" and "anti" is in the minds of many in this country; they hear the word ante-natal and they think it must mean birth control, which many people imagine to be abortion.

This is a matter of national importance; the welfare of the mothers of the nation is at stake. Let us drop our Latin and speak the common tongue, understanded of the people, as the Prayer Book says. Let the less wealthy mothers know that maternity benefit depends on seeing the doctor before the confinement, and let all the general public see and understand what maternity hospitals are like. We shall then get the confidence of the mothers (and fathers), and trust will replace the present miserable apprehension and secrecy.—I am, etc.,

May 28th. P. W.

GALL-STONES AND PREGNANCY.

SIR,—In his interesting address on "The woman damaged by child-bearing," published in your issue of May 18th (p. 891), Dr. James Young refers to the supposed influence of pregnancy on gall-bladder disease. It is true that gall-stones are found with equal frequency in men and in childless women, and that for every childless woman with gall-stones there are four women with gall-stones who have had one or more children. But, as I pointed out in an address on "The constitutional factor in disease," which you published on May 7th and May 14th, 1927, it is also necessary to remember that about four women out of every five have one or more children before they die. It follows that, apart from any special liability to the disease, four women who have had children will have gall-stones for every one woman who has had no children. The relatively much greater incidence in women than in men cannot therefore be due to the hypercholesterolaemia of pregnancy.

My views on the subject have been recently confirmed by Dr. Desirée Gross from the Leeds post-mortem records.* She found that 89.7 per cent. of 218 women over 25 with gall-stones were married, compared with 87.2 per cent. of 626 women over 25 without gall-stones; and whereas only 7.1 per cent. of 5,319 men had gall-stones, 21.5 per cent. of 106 single women and 27.6 per cent. of 739 married women had gall-stones. Statistically the small differences between the single and married women are of no appreciable importance.—I am, etc.,

New Lodge Clinic, Windsor Forest, May 26th. ARTHUR F. HURST.

* Dr. Gross's paper on the subject will shortly be published in the *Journal of Pathology*.

EPHEDRINE IN ASTHMA.

SIR,—The report in the *Journal* of May 25th of the Royal Society of Medicine's discussion on ephedrine (p. 954) prompts me to record the results that I have obtained from the study of a series of forty-eight patients suffering from asthma treated by this drug. The cases were entirely unselected, except that the great majority were obtained from "hospital practice." The period of trial varied from a few weeks to fifteen months, and the dosage from gr. 1/4 b.d. to gr. iii t.d.s. The cases can be divided into five groups according to the degree of response to treatment, as follows.

Group A: 13 cases (27 per cent.), in which the drug was employed with unqualified success, the patients being absolutely free of attacks whilst taking the drug. The fact that in five of these cases discontinuance of the drug was followed by recurrence of symptoms—the period of trial extending in each case for more than five months excluding coincidence as a plausible explanation, and the fact that only one of these patients was an adult making a psychological explanation untenable—points in no uncertain way to the efficacy of ephedrine in these instances.

Group B: 13 cases (27 per cent.), in which the benefit was most marked, an occasional attack (of modified severity) breaking through the barrage of the ephedrine defence, causing this group to be separated from the first group.

Group C: 4 cases (8.5 per cent.), in which only slight benefit was obtained.

Group D: 5 cases (10.5 per cent.), in which the issue was inconclusive.

Group E: 13 cases (27 per cent.), in which there was no apparent benefit.

These results are distinctly less flattering than those reported in the American literature.

Twenty-six of the total number of patients were children of 12 years and under, and it is interesting to note that these are proportionately represented in each of the groups. Neither the frequency nor the severity of the attacks seemed to afford the least clue as to the benefit that might be expected from the employment of the drug, excepting that in those attacks that resisted an injection of adrenaline ephedrine was equally powerless. Seven patients complained of symptoms referable to taking the drug. Three complained of sleepiness, one only of insomnia, two of vomiting (one severe), and one of nervousness, sweating, and palpitations. Only in one case was it necessary to discontinue the drug, while in only one of the nine patients in Groups A and B who were treated for a period of longer than six months was there any suspicion of acquired tolerance.—I am, etc.,

E. G. RECORDON,
May 29th. House-Physician, St. Bartholomew's Hospital, E.C.1.

THE HOLLOW SURGICAL NEEDLE.

SIR,—In surgery, as in other arts, useful methods and practical devices may come into being, be practised sporadically and intermittently by the individual, and fall into disuse "unwept, unhonoured, and unsung." Among such is the hollow surgical needle. In principle it lays no claim to recent invention, for it has long been adapted to serve special branches of surgery; furthermore, it materialized many years ago in the form of a hollow needle for general purposes, but this has never found its way into the routine of daily surgery.

It is to the general practitioner that the use of the hollow needle is most likely to commend itself. The operating surgeon might find it of use, but will probably reject it as an encumbrance to his armamentarium, for he usually operates on patients under general anaesthesia; the question of pain does not concern him, therefore, and further, he does not run the risk of coming face to face, in his daily rounds, with an almost invisible wound cicatrix flanked by a double row of very obvious suture scars. Thus, in his case, the *raison d'être* of the hollow needle practically vanishes.

In your issue of April 8th, 1905 (p. 808), you published a letter from Dr. Gubb advocating the use of a hypodermic syringe needle for the insertion of superficial wire sutures. The advantages claimed for the device, as compared with the method in current use, were that the pain of insertion was reduced to that of a hypodermic needle puncture, and that there was no scarring, such as results from the incision made by the cutting edge of an ordinary suture needle. Shortly after I read the letter a child with a split lip was brought to me; I closed the wound with a suture inserted in the manner suggested, using, however, horse-hair instead of wire.

In recent years I have often had to treat superficial wounds of conspicuous parts without a general anaesthetic. This revealed the need of a *curved* hollow needle, since a straight one is useless when the wound is situated in a sulcus or depressed part of the surface. I submitted the problem to Messrs. Allen and Hanburys, suggesting a hollow, semicircular needle, about 1 in. in diameter and without a cutting edge. Shortly afterwards I received samples in three sizes—1 in., 1⅛ in., and 1¼ in. in diameter—the larger ones carrying a somewhat heavier suture than the smaller. I now have a supply of these needles, which I keep ready threaded with horse-hair or silkworm-gut, and immerse such as I am about to use in a solution of iodine or mercurochrome. Incidentally, I have never seen stitch sepsis occur in connexion with these sutures—a result probably due to following Dr. Bernhardt's practice of exposing wounds to the air—for dressings render the subjacent tissues weak and soggy, thereby furnishing a soil favourable to the growth of vegetable organisms, which are further encouraged to germinate by the induced warmth and moisture of their surroundings.

The procedure recommended is as follows:

Paint the skin area for a suitable distance around the wound with a 2 per cent. solution of mercurochrome—an antiseptic that does not cause smarting. Apply wool soaked in apothesine or other cocaine derivative to the raw surface of the wound. Pick the needle out of mercurochrome with artery forceps or needle holder. Withdraw the suture till the end is within the eye of the needle. If more than one suture is necessary, work from the middle of the wound towards the ends. Introduce the needle on that side of the wound where the skin is more mobile, and let it emerge on the more fixed side.

When the point of the needle emerges, push the suture through it from the other end and pull through a sufficient length on the distal side to tie. Withdraw the needle from the tissues and along the suture till there is sufficient length on the near side to tie. Cut the suture at the point of the needle, so that this remains threaded ready for the next stitch. Secure accurate apposition and tie. Proceed with the next suture, remembering always to introduce the needle on the more mobile side of the wound and to let it emerge on the more fixed side—a direction which may be reversed in successive stitches. After the patient has recovered from the first shock of the injury, rest or not is prescribed according to the position and severity of the lesion. Paint the wound area daily with mercurochrome and remove the stitches on the fifth day.

The advantages of the hollow needle are those mentioned thirty years ago by Dr. Gubb.

There are one or two general principles incidentally involved in the suturing of wounds which it may be of use to mention. It is good practice to lubricate all instruments used to puncture or cut living tissues. Blood should be thoroughly removed from parts away from the wound but not from the bleeding surface itself, where it plays an important part in the process of repair. As it issues from the vessels blood is aseptic; it helps to promote union by gluing wound surfaces together, while a continuous scab maintains intimate approximation along the line of contact of wound edges. By clotting it tends to arrest haemorrhage and affords a stroma for the development of cicatricial tissue. The sutures serve to arrest haemorrhage from more important vessels, and to squeeze out any excess of blood which may be present between wound surfaces.—I am, etc.,

STUART TIDEY, M.D., M.R.C.P.
London, W.14, May 18th.

APPENDICITIS AS A COMPLICATION OF BILHARZIAL INFECTION.

SIR,—In your issue of May 4th (p. 810) a memorandum by Dr. H. E. Harris records a case of appendicitis, presumed to be caused by the presence of bilharzia ova in the organ, as an unusual occurrence.

We would take the opportunity of indicating that the deposition of bilharzia ova in the appendix is far from uncommon in Egypt. In over 50 per cent. of the appendices removed at operation for subacute or chronic

appendicitis and submitted to us for histological examination we find a similar picture to that described in the note in question. In several cases enormous numbers of ova are demonstrable in every field of the microscope, and completely encircle the glandular layer of the organ. It is questionable, however, whether the inflammatory process is due in all cases to the presence of these sources of irritation.—We are, etc.,

Public Health Laboratories, Cairo, May 23rd. H. MARRIAN PERRY. HAROLD J. BENSTED.

RELATIONSHIP OF ALASTRIM (VARIOLA MINOR) TO SMALL-POX (VARIOLA MAJOR).

SIR,—With all due deference, I would like to suggest to Dr. Killick Millard that, perhaps after all, the above two diseases are one and the same, and that the mild course run by those suffering from alastrim is entirely due to the fact that vaccination has now been extensively practised in Great Britain for over a hundred years. Some little time ago I read an article in *Nature* in which it was stated that immunity is hereditary provided five generations have been immunized, and that this had been clearly demonstrated recently. So when we think of the immunity to malaria found among the native races of Africa and other malaria-infested countries, is it not conceivable that vaccination extending over five generations of our people is beginning to tell in the end, even though some of the people recently infected were never vaccinated? They are benefiting by the vaccination carried out on their parents and grandparents. It would be interesting to see what would happen were alastrim to break out in a mixed population, many of whom had not had ancestral protection.—I am, etc.,

Little Island, County Cork, June 2nd. E. G. FENTON.

PRIMARY VACCINATION OF SCHOOL CHILDREN.

SIR,—It should be widely known among general practitioners that cases of post-vaccinal encephalitis are occurring at the present time in England.

Among the few known points in the etiology of this disease are: (1) it appears to be confined to primary vaccinations of children of school age; (2) it cannot be connected with the use of any particular brand of vaccine lymph. Further, the mortality rate is high. On the other hand, the latest mortality rate of the prevailing epidemic of small-pox is very low, being 0.25 per cent.

There is therefore a heavy responsibility on medical practitioners in deciding at this time whether to proceed with the primary vaccination of children of school age. But there is nothing to suggest that there is any undue risk in proceeding with revaccination, or with the vaccination of infants and adults.—I am, etc.,

London, E.16, June 3rd. PERCY ROSE.

ASSOCIATED CONGENITAL ABNORMALITIES.

SIR,—In the course of Dr. Liesching's interesting memorandum, in your issue of June 1st (p. 993), on strangulation of ovary in an inguinal hernia associated with congenital abnormality of the kidney, he comments on the probability of a congenital abnormality of the one organ being associated with an abnormality of the other, and asks if any similar cases have been reported.

During a recent investigation, not yet published, into the literature of congenital solitary kidney, I have come across details that may be of interest.

Bolaffio (*Zeit. f. Geb. u. Gyn.*, 68, Heft 2, 1911), in an investigation of 99 cases of defects of female genitalia associated with renal anomalies, concluded that female genitalia defects occurred much more frequently in connexion with complete lack of development of the kidney than in association with any other renal anomaly.

Winter (*Arch. klin. Chir.*, vol. lxix, p. 611, 1903), in a collection of 237 cases of solitary kidney, noted an absence of an ovary in four of them.

Campbell (*Annals of Surgery*, July–December, 1928) mentions a case which he encountered in which congenital absence of one kidney was associated with retroperitoneal and atrophic testicle on the involved right side.—I am, etc.,

Glasgow, June 3rd. ALBERT SHARMAN.

THE NEW PYLORUS OPERATION.

SIR,—When Dr. C. D. Mayo was last in England I communicated with him on the subject of the above-mentioned operation; and pointed out that the ordinary posterior no-loop operation for gastric or duodenal ulcer was a perpetuation of a physiological error. Also that after the no-loop operation, done by the ordinary surgeon, the majority of the patients have to be meticulously careful in their diet, and are frequently under the care of a physician; whereas after the new pylorus operation the patients have a normal digestive apparatus and require no dietetic or medical treatment.

As a result of this letter Dr. C. D. Mayo informed his surgical staff at the Mayo Clinic, and one of the Mayo Clinic surgeons, after reading my previous articles in medical journals[1] on the subject of the new pylorus operation, did seventy-five cases in this way. He had two jejunal ulcers in the seventy-five cases—one of whom he said was cured, and the other was receiving treatment at the time of his writing (1926).

A diagram of this operation can be seen in the *British Medical Journal*, April 24th, 1926 (p. 738).—I am, etc.,

G. G. GILLON, F.R.C.S.Ed.

*** The correspondence between the Mayo Clinic and Mr. Gillon can be seen at the Library of the British Medical Association by those interested.

RURAL HYGIENE.

Proposed Memorial to Vivian Poore.

SIR,—The first steps are now being taken to carry out a suggestion of the Council of the National Homecroft Association to raise a homecrofting memorial cottage to that eminent rural sanitarian the late Dr. George Vivian Poore of University College Hospital, London, Milroy Lecturer for 1899, author of *Rural Hygiene* and other works.

A letter from Dr. N. Macfadyen on garden city sanitation appeared in the *British Medical Journal* of December 1st, 1923 (p. 1070), and in your issue of February 9th, 1924 (p. 250), an article was published by Dr. Lionel Picton, medical officer of health for Winsford, Cheshire, on the economic disposal of excreta, on Poore's principles. It is evident that the subject is very much alive in the rural districts, where sanitation is still a serious problem; and the experience of the homecroft movement suggests that a still wider interest is needed on the part of the medical profession.

A committee to assist the Homecroft Association Council in the institution of the experimental cottage memorial is now being formed. The first task is to obtain names and addresses of all old friends and associates of Dr. Poore and readers of his writings who might be interested in the work of the committee or care to join it, together with the names and addresses of any interested in developing homecrofting as a national movement. In order that the committee may be made a large and representative one, names and addresses should be sent to me.—I am, etc.,

38, Charles Street, Cardiff, May 31st. J. W. SCOTT, Honorary Secretary, National Homecroft Association Ltd.

THE INTERNATIONAL LEAGUE AGAINST RHEUMATISM.

SIR,—Referring to your annotation under this heading on June 1st (p. 1011), may I say that some copies of the second issue of *Acta Rheumatica* are now available in this office for medical men or women who are engaged in the investigation and treatment of rheumatic diseases. The *Acta*, in their present provisional form, may, it is hoped, be of some service to students of these diseases in the countries where they are being especially studied. A copy may still be had on receipt of threepence for postage; also particulars of the next conference of the league, which will be held in Hungary in October, in conjunction with the annual meeting of the International Society of Medical Hydrology.—I am, etc.,

International Society of Medical Hydrology, 139, Marylebone Road, N.W.1, June 2nd. R. FORTESCUE FOX.

[1] *Practitioner*, June, 1920; *Lancet*, January 21st, 1920; Epitome, *New York Med. Journ.*, 1920; *British Medical Journal*, April 22th, and May 29th, 1926.

Medico-Legal.

ALLEGED ILLEGAL OPERATION: CHARGE OF MANSLAUGHTER.

REX *v.* H. WINDSOR BELL.

AT the Central Criminal Court, on May 31st and June 4th, before Mr. Justice McCardie, Dr. Hugh Windsor Bell of Oakley Street, Chelsea, was charged on an indictment of manslaughter arising out of an alleged illegal operation. The defendant pleaded "Not guilty."

Mr. H. D. Roome, for the prosecution, said that in April last a young woman named Kelly went to Dr. Bell regarding her pregnancy, and a few days later, at a house in Kensal Rise, Dr. Bell, the Crown alleged, performed an illegal operation to procure abortion. An accident occurred at the operation, and Dr. Bell afterwards told the girl's sister that he had "made a hopeless mess of it." Distressed at the girl's condition, he had her removed to a nursing home in Welbeck Street, and called in Dr. Richardson, who performed an operation in the attempt to save the girl's life, but without success. It was further alleged that, before the operation attempted by Dr. Bell, he received £75 from the girl, being part of £100 which she had been given by a man friend to cover the expenses.

Evidence as to these allegations was given by the prosecution.

On the second day of the trial Dr. Bell gave evidence. In reply to Sir Henry Curtis-Bennett, his counsel, he said that he qualified in 1914. He had specialized in anaesthetics, and was anaesthetist to several London hospitals. He was also in general practice, and had 1,400 insured persons on his list. The girl Kelly was brought to him by a Mrs. Capper, whom he had known when she was secretary to a colleague of his in a former practice in West London. Kelly wanted to know whether she was pregnant; she had been to another doctor, who thought she was not. She told him that her periods had stopped since November, and it was then April. She also told him that she had taken drugs, and had syringed herself with hot soap and water. He found signs of pregnancy, but on making a bimanual examination the size of the uterus did not appear to him as large as he would have expected, judging from the time for which the menstrual periods had ceased, and he discovered also the fact of some blood-stained discharge. He came to the conclusion that the membranes must have ruptured, and that a miscarriage had started. He told her that she ought to go into a nursing home, but she was horrified at the idea because she was an unmarried woman and her family would learn of her condition. It was therefore arranged that Mrs. Capper should take her into her house.

The judge asked questions with regard to the syringe the girl had used. He pointed out to the jury that the effect of drugs was to stimulate movement, and possibly to cause expulsion of the foetus; in addition, a syringe at the mouth of the uterus might cause irritation, and that by itself might cause the muscles to move.

Continuing, the defendant said that he told the girl that with commencing miscarriage she might have to lie up for a fortnight or more. She gave him the name of someone who, she said, was a very wealthy man, and who had given her £100, and she offered him (Dr. Bell) £75 as an inclusive fee. During the next day or two he became rather worried about her condition. There was pain and blood-stained discharge, and on April 8th—the girl had first seen him on April 4th—hearing by telephone that she was in a very distressed state, he went to see her, and after examination came to the conclusion that he ought to remove the foetus. He gave her chloroform, and first put in a speculum, and after grasping the neck of the womb with the forceps, he inserted in turn about six dilators of increasing size. Unfortunately, one of the dilators made a puncture in the anterior wall of the uterus; the uterus was in malposition, or such a puncture would not have been possible. Unaware that the puncture had taken place, he put in the forceps for extracting the uterine contents. He brought down a limb of the foetus, and then, inserting the forceps again, they slipped from whatever they held, and, trying a second time, he brought down something which he realized was a portion of intestine. He immediately telephoned Dr. Richardson, and got the girl into a nursing home.

In cross-examination by Mr. Roome, Dr. Bell agreed that his contention was that Miss Kelly actually performed an illegal operation on herself with a syringe and hot soapy water. He explained that he had not told the full story at the inquest or the police court proceedings because he had been advised by his solicitor to reserve his defence. He would not say that the £75 fee was enormous. He expected to attend the girl for a fortnight or longer. Asked why, if there was nothing to hide, he did not ask a colleague to give the anaesthetic, he said that being an anaesthetist himself he did not look upon the giving of an anaesthetic quite as an ordinary doctor would. He usually gave a little chloroform at the end of a maternity case, and did not call in anyone else.

Mr. Aleck W. Bourne, gynaecologist, practising in Harley Street, said that the combination of drugs with local interference as by syringing might, and did occasionally, induce abortion. If the doctor was satisfied that a miscarriage was inevitable it was a common practice to expedite it should there be undue delay or other complications. The medical man must decide on the circumstances before him. The procedure depended on the case, but he could quite imagine speculum and dilators being necessary. It was difficult to understand how a wound could be made in the front of the uterus if it was in normal position, but if it was turned backwards a puncture in that part of the wall would be likely to occur in the hands of a man unaccustomed to deal with such emergencies. If such a puncture were made it was common for the uterus to contract and push the foetus out through the hole thus made, enlarging the hole to a very great extent. He agreed that in a pregnancy of eighteen weeks it would be difficult for drugs alone to induce miscarriage, but if syringing were used and the syringe nozzle caused any injury at or about the mouth of the womb miscarriage might occur.

Mr. Justice McCardie's questions to this witness led Mr. Roome to remark, "Your lordship is more expert than the experts."

The Summing-up.

His lordship said that Mr. Roome had remarked that the defendant, who admittedly bore a very good character, was fortunate in escaping a charge of murder. The judge was glad that no such charge had been brought. The essence of murder was intent to kill, and he was glad that no attempt had been made to present against this defendant any charge based on the harsh, mediaeval, and repulsive doctrine of constructive murder. The charge was manslaughter; it was not negligence, and therefore in substance the question was whether he performed an illegal operation. It was vital to notice that word "illegal." Certain operations were legal and necessary in the last stages of pregnancy to save the life of the mother, and if possible the life of the child, but there was a stage before that when an operation to bring away the foetus might be legal, and not only legal but imperative from the medical point of view. If once the sac which contained the foetus were broken, and the liquid escaped, blood poisoning might ensue should the foetus not be removed. According to the defence it was this necessary operation which Dr. Bell performed.

There were different methods of procuring abortion. The reluctance of doctors to state those methods might be right; no one would desire to spread the knowledge of abortive methods, but in a court of justice it was essential that every item of experience should be laid before the jury. A very simple process might lead to the commencement of a miscarriage; for example, the syringe itself might set up a local irritation which induced movements of the uterus. One factor in this case ought not to be overlooked—namely, the anxiety of the girl herself, finding that she, without the sanction of marriage, was pregnant.

As to what happened at the operation there was no direct evidence except that of the defendant himself. The Crown had made a point of the secrecy with which the operation was conducted. The girl went to a private house; he agreed it would have been better if she had gone into a nursing home. On the other hand, in a nursing home she would have had to give certain particulars about herself; and whether she contemplated undergoing an illegal operation or whether a miscarriage had commenced, she would still desire to have secrecy. It was asked why Dr. Bell did not call for the help of an anaesthetist. But it should be remembered that he had himself a singularly high record as an anaesthetist; moreover, the girl might not wish more than one doctor to be acquainted with her misfortune. Medical men had certain obligations with regard to secrecy, and had insisted again and again that their efficacy as medical men in many aspects of their practice depended upon the confidence of their patients that secrets would not be divulged. Again, there was the fact of the £75. It was a really substantial sum. It had been suggested that the services of a first-rate obstetric surgeon might have been obtained for that sum. But, of course, it was an inclusive fee for services which might have extended over a fortnight or more. Mr. Roome had also made a point of the fact that the defendant had made no record of this case in his books. To this there were two answers: that he was arrested at an early stage, and, again, that the question of confidence arose; if the £75 had been entered in his books it would have been seen by anyone who audited them.

The words used by Dr. Bell after the operation were equally consistent with the commission of a surgical blunder or with a crime. There were certain points to be considered in his favour. As soon as this unfortunate piercing of the wall of the uterus was discovered, he might have said, "Let her stay here" (in Mrs. Capper's house), and have tried to hush up the affair, but instead he immediately arranged for her to go to a nursing home and for Dr. Richardson to perform an operation. He said at once that he was responsible. If he had performed an illegal operation as distinct from committing a surgical blunder, would he have been so frank in stating his responsibility for it? A very important witness was Mrs. Capper. She was a witness for the prosecution,

not for the defence, and some of her evidence was not favourable to the defendant, but if she was telling the truth the case for the defendant was enormously strengthened. Mrs. Capper had stated that the girl had asked her for a towel or cloth because she had a discharge; also that before Dr. Bell arrived and performed the operation the girl was in such great agony that she begged her (Mrs. Capper) not to leave her. This pain was indicative of commencing miscarriage. Finally, the judge reminded the jury that the burden rested upon the prosecution of producing satisfactory proof of Dr. Bell's criminal intention, and if in doubt upon the matter the jury were entitled—nay, bound—to remember that up to the present Dr. Bell had enjoyed the highest possible reputation.

The Jury Disagree.

After more than an hour's retirement the jury failed to agree. The case was postponed to next sessions, Dr. Bell being released upon his own recognizances.

ALLEGED RECEPTION OF LUNATICS IN AN UNLICENSED HOUSE.

ON May 30th, at the South-Western Police Court, the magistrate, Mr. Kenneth Marshall, following a conflict of medical testimony, dismissed summonses against two persons accused of receiving five lunatics into a nursing home at North Side, Clapham Common, not licensed for the purpose under the Lunacy Acts.

At a previous hearing Mr. Gerald Dodson, on behalf of the Director of Public Prosecutions, had stated that the nursing home carried on by the defendants, was a perfectly respectable and reasonably conducted house, but produced medical evidence to the effect that five female inmates were certifiable lunatics. One of the medical witnesses called by the prosecution admitted that these patients were not dangerous to themselves or others, though he would except one in whom there were suicidal tendencies. The patients' own medical attendants stated that they were not, in their judgement, certifiable, and there was no reason why they should be put under restraint. One of the defendants stated that she had conducted the home for fourteen years, and her patients, principally elderly people, were all attended by their private doctors. She made a practice of sending any patient of whose condition she felt suspicious to St. John's Hospital for observation, and added that the Lord Chancellor's Visitor for Lunacy had certified none of the patients as lunatics.

The magistrate, in dismissing the summonses, said that he could not but express surprise that it had been found necessary to take proceedings against the defendants: even an expert in mental disorder called on behalf of the prosecution had hesitated in asserting that the patients were certifiable. The medical attendants of the patients themselves, though not experts, were, in his view, qualified to give an opinion; they saw the patients frequently, whereas the specialist had seen them only once. In face of the evidence he would be doing wrong to say that the five persons were lunatics.

The Services.

INDIAN MEDICAL SERVICE DINNER.

THE annual dinner of the Indian Medical Service will be held at the Trocadero Restaurant on Wednesday, June 19th, at 7.15 p.m. Lieut.-Colonel D. G. Crawford, "the historian of the service," has been invited to take the chair. Tickets, and all particulars, may be obtained from the joint honorary secretary, Major Sir Thomas Carey Evans, *M.C.*, 31, Wimpole Street.

DEATHS IN THE SERVICES.

MAJOR-GENERAL CHARLES EDWARD POLLOCK, C.B., C.B.E., D.S.O., Army Medical Service (ret.), died at Northwood, Middlesex, on May 18th, aged 61. He was born on April 16th, 1868, at Paisley, the son of Mr. Alexander Pollock of Greenhill, Paisley, and was educated at Wellington College and at Guy's Hospital, and took the M.R.C.S. and L.R.C.P.Lond. in 1891. He entered the army as surgeon lieutenant on January 30th, 1893, attained the rank of colonel on December 26th, 1917, became major-general on June 1st, 1922, and retired on June 1st, 1926. He served in the Tirah campaign on the North-West Frontier of India in 1897-98 (medal with two clasps); in the South African war in 1902, in operations in the Orange River Colony and Cape Colony (Queen's medal with two clasps); and in the war of 1914-18, as A.D.M.S. of the 15th Division, and as D.D.M.S. of the 4th and 6th Corps (mentioned in dispatches, in the *London Gazette* of January 4th, May 29th, and December 24th, 1917). He was awarded the D.S.O. in 1917, the C.B.E. in 1919, and the C.B. in 1921. He was the author of a report on venereal diseases and scabies in the army, submitted to the Advisory Board for Medical Services in 1904. He married Winifred, daughter of Mr. C. E. H. Jay of Felixstowe, and leaves a son and two daughters.

Obituary.

ROBERT WELSH BRANTHWAITE, C.B., M.D.,

Director of Medical Services, Stoke Park Colony; formerly Medical Commissioner, Board of Control.

THE announcement early this week of the death of Dr. R. W. Branthwaite, director of medical services at the important colony for the care and treatment of mental defectives at Stoke Park, Bristol, will have occasioned a sudden sense of loss to many, and even to the few who knew that, with the cheerful courage which ever distinguished him, he was carrying on his good work almost up to the day of his death, notwithstanding symptoms which had occasioned anxiety to others.

The son of Harrison Branthwaite, F.R.C.S., of Harlesden, Robert Welsh Branthwaite was born on May 27th, 1859, and thus died a few days after he had completed his seventieth year. Educated at Heighington Grammar School, at Charing Cross Hospital Medical School, and at Brussels University, of which he was a Doctor of Medicine, he took the diploma of M.R.C.S. in 1881 and the L.R.C.P. in 1884. His interest in mental diseases was manifested early in his professional career, and in 1882 he was appointed an assistant medical officer to the Chester County Mental Hospital at Parkside. After two years' work there he was appointed, at the early age of 24, to the medical superintendentship of Dalrymple House, Rickmansworth, where for fifteen years he ably administered that institution and two similar establishments under the Habitual Drunkards Act.

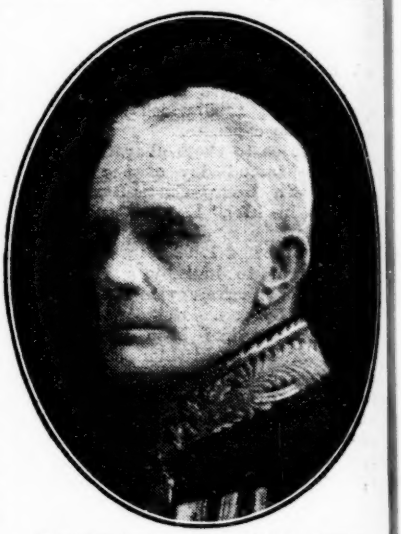


Photo by Army and Navy C.S.S., London.

In 1899, in recognition of his grasp of the subject and his marked ability, Dr. Branthwaite was appointed by the then Home Secretary, Sir Matthew White Ridley, to the Home Office staff as inspector under the Inebriates Act, and was engaged in the organization and establishment of reformatories for the care and treatment of criminal and recidivist drunkards under the Inebriates Act. To enable him to assist in the management of State reformatories he was appointed an inspector of prisons, and for four years acted as medical adviser to the Reformatory and Industrial Schools Department. His work under the Home Office continued until the beginning of 1914, and during this period of a life of incessant activity he made many valuable contributions to the subject of which he was a master, and attended as an official delegate several international congresses, including the International Home Relief Congress in Edinburgh (1904), the International Congress of Alcoholism at Stockholm (1909), London (1910), and The Hague (1911). He was also an active member of the Departmental Committee on the Inebriates Act (1908).

In February, 1914, Dr. Branthwaite joined the Board of Control for England and Wales as an inspector, and in November, 1916, was appointed a Commissioner of the Board, in which capacity he remained until he retired under the age limit in the autumn of 1926. During his years of office in the Board of Control, interrupted by two years of military service, he interested himself especially in two matters—namely, infectious diseases in mental hospitals and the dietaries of the patients in public mental hospitals—and it is not too much to say that his investigations and the work of the departmental committees over which he presided have been largely instrumental in bringing about the improved conditions which obtain

to-day. He was an active member also of the Departmental Committee on Morphine and Heroin Addiction. Unsparing of himself, whatever he did he did with all his might. On leaving the Board of Control, and desirous, even at the cost of a well-earned leisure, to place his special knowledge and experience at the service of the community, he accepted the medical directorship of the colony for mental defectives at Stoke Park. Here his loss will be severely felt by patients and staff alike; and, though only for a brief time we hope, his plans for the employment of the colony as a place for special study and research in mental deficiency, in association with the University of Bristol Medical School, have been interrupted.

Dr. Branthwaite leaves a widow and one daughter, to whom we tender our sympathy. Many will mourn his loss, for he had friends all over England and Wales. Courage and sincerity, say his friends and colleagues of the Board of Control, were the dominating characters of his life and work. In early and middle life he met and overcame difficulties which would have daunted most men. When the war came, although well on in the fifties, he went to France as regimental surgeon, was present at three engagements, was mentioned in dispatches, was wounded, and finally incapacitated for further overseas service. In private life his relations with all with whom he came in contact were marked by unusually clear insight and consequent sympathy. He was a great and true friend, and there are many to whom his death will mean a blank that cannot be filled. His friends will remember him as one who had "courage and gaiety and a quiet mind."

Dr. HUGH SMITH MORRISON died, on May 21st, at his residence at Blackhill, Coleraine, and deep regret will be felt, both by the profession and by the general public, in Ulster. He had not been in good health for some years, and had gradually retired from his large practice and numerous public offices which his activity and ability had really forced upon him. Hugh Morrison was born in 1853, and graduated M.D. from the old Royal University of Ireland in 1884, obtaining also in the same year the diplomas L.R.C.S. and L.M.R.C.P.I. He began his professional life in County Londonderry, where he made for himself a name and gained the trust and affection of his patients in a very large private practice. Nothing could withstand his energy, and he was placed by the profession and the public in numerous positions of responsibility and honour. Among other posts he was chairman of the South Londonderry Unionist Association, and of the County Londonderry Branch of the Irish Unionist Alliance. He was nominated by the medical association of the county as candidate for Queen's University of Belfast in the Northern Parliament of Ireland in 1925; the selection was unanimously adopted, and he sat in the Northern Parliament for many years. Possessing a good voice and many of the qualifications of a keen debater, he was no silent member, but made many valuable contributions to debates on social matters and education. His caustic criticism and unfailing good humour were appreciated on all sides and by all parties; he never omitted to lend a hand in the solution of agricultural problems, wherein he had practical knowledge. As secretary of the medical societies in County Derry, and as a member of the North-East Division of the Ulster Branch of the British Medical Association, he gave wholehearted support to medical reform. Dr. Morrison was a keen Presbyterian, and often spoke in the meetings of the General Assembly. As coroner for the Coleraine division of Derry he discharged his duties with great care, ability, and tact. He was the author of *Modern Ulster: its Industries, Customs, and Politics*. Few have lived such an active, full life; still fewer have left such an empty space, and one so hard to fill.

Dr. ROBERT WISE, who died on May 17th, aged 63, received his medical education at the University of Edinburgh, where he graduated M.B., C.M. in 1888, and proceeded M.D. four years later. His life was spent in general practice. He took particular interest in obstetrics, being a member of the Obstetrical Section of the Royal Society of Medicine, and in former years a Fellow of the Obstetrical Society of London. He designed a special type of uterine forceps for use in cases of soft cervix, and published articles on practical obstetrics. During the war he was employed by the War Office for medical examination of recruits, and subsequently for pension assessments. Dr. Wise was a member of the British Medical Association. He leaves a widow, one son, and two sisters.

THE LATE MR. ARTHUR CHEATLE.

MR. H. NORMAN BARNETT writes: As one who was brought into close touch with Arthur Cheatle during the preparation for and the holding of the 1925 Annual Meeting at Bath, and on many subsequent occasions, I would like to bear record to the memory of this truly great man who has passed from us while still in his prime. His wonderful brain power and capacity for investigation are, of course, widely known. To these was added an unfailing courtesy and very real kindness of heart, which I personally experienced on many occasions. The truth in scientific research was a passion with Cheatle. His simple and rather shy manner was the badge of his true greatness. His loss to his colleagues in otology will be hard to replace, and his memory will be enshrined in many hearts, but I would be glad to see something tangible done to perpetuate it.

Universities and Colleges.

UNIVERSITY OF LONDON.

DR. H. W. C. VINES has been recognized as a teacher of the University in pathology at Charing Cross Hospital Medical School.

The regulations for the M.B., B.S. Examination are to be amended by the substitution for paragraph (b) (i) on page 243 of the Red Book, 1928–29, and page 230 of the Blue Book, September, 1928, of the following:

> (i) An examination of a patient, and a written report thereon, three-quarters of an hour being allowed for the former and one hour for the latter.

The matter to be reconsidered after one year.

The regulations for the M.D. Examination, Branch IV, have been amended by the substitution for the words "a clinical examination" (Red Book, 1928–29, p. 247, and Blue Book, September, 1928, p. 234) of the following:

> A practical and clinical examination, including reports (either written or verbal, or both) on clinical cases, pathological and other specimens, and other material suitable for an examination of a practical character.

Regulation 3 of the examination for the Diploma in Psychological Medicine has been amended to read as follows:

> The examination for the diploma is open to any candidate whose name is in the *Medical Register*, provided that, before being admitted to Part B, the candidate shall either (*a*) have held for not less than six months a resident or whole-time appointment at an institution (or institutions) for mental diseases recognized for the purpose; or (*b*) have attended for not less than twelve months the practice of such institution (or institutions), or such other practice as may from time to time be approved by the University.

Dr. A. M. H. Gray and Professor William Wright have been appointed members of the new Senate under Statute 43 (iii) (c), as representatives of the deans or chief executive officers of the general medical schools.

Applications for the William Julius Mickle Fellowship must reach the Principal of the University not later than the first post on October 1st. It is of the value of at least £200, and is awarded annually to the man or woman who, being resident in London and a graduate of the University, has, in the opinion of the Senate, done most to advance medical art or science within the preceding five years.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL.

The examination for the two Goldsmid Exhibitions, entitling the holders to the final course, will be held on July 19th and 20th. They are open to students preparing for the degrees of the Universities of London, Oxford, Cambridge, Durham, or other British universities, or for the diplomas of the Royal Colleges of Physicians and Surgeons, or for the licence of the Society of Apothecaries. Notice to compete must be received by the secretary at the office of the Medical School on or before July 6th.

The examination for the Bucknill Entrance Scholarship will be held on June 25th. The holder is entitled to the course of intermediate medical studies (including Part II of the Preliminary Scientific) at the University of London, University College, and the final course at University College Hospital and Medical School.

Further particulars can be obtained on application to the Secretary, University College Hospital Medical School, Gower Street, W.C.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have passed in the subjects indicated:

SURGERY.—W. T. Ellis, A. Freitag, J. D. B. Games, W. St. A. Hendricks, L. G. E. K. Lewis, B. J. Niall.

MEDICINE.—F. W. Crossley-Holland, A. Freitag, K. E. Gallaher, K. M. Seedat.

FORENSIC MEDICINE.—P. S. Balachandran, A. Freitag, K. E. Gallaher.

MIDWIFERY.—A. Campbell, R. H. El Sawy, B. L. Fishout, A. Freitag, C. Parthasarthe, A. Scher.

The diploma of the Society has been granted to Messrs. F. W. Crossley-Holland, A. Freitag, and K. E. Gallaher.

Medical News.

THE summer dinner of the Australian and New Zealand Medical Association in England will be held at the Trocadero Restaurant, Piccadilly, on Friday, June 14th, at 7.45 for 8 p.m., with Mr. F. F. Muecke in the chair. Mr. W. Sampson Handley and Professor F. R. Fraser will be the official guests of the Association. All medical visitors from Australia and New Zealand, whether members of the Association or not, are invited to be present. The cost of the dinner is 10s. 6d., payable at the table. Communications should be addressed to Mr. P. J. Jory, 26, Queen Anne Street, W.1.

THE annual dinner of the Cambridge Graduates' Medical Club will be held at Jesus College on Friday, June 28th, at 7 p.m., with Sir Humphry Rolleston, Bt., President of the Club, in the chair. The honorary secretaries are Mr. Reginald Vick and Dr. F. G. Chandler.

THE annual dinner of the Harveian Society of London will be held on Thursday, June 13th, at 7.30 for 8 o'clock, in the Connaught Rooms, Great Queen Street, W.C.

A SYMPOSIUM on some diseases of Jews is being opened by Sir Humphry Rolleston on Thursday, June 13th, at 3 p.m., at the London Jewish Hospital, Stepney Green, E.1. The following will take part in the discussion: Drs. J. Burnford, W. M. Feldman, and J. Brander, and Messrs. A. H. Levy, M. Sourasky, and A. Sourasky.

AT a special meeting of the Odontological Section of the Royal Society of Medicine on Wednesday, July 17th, at 5.30 p.m., a bust of the late John Howard Mummery will be unveiled, and will be presented to Dr. A. D. Black, professor of special pathology and operative dentistry in the North-Western University, Illinois. Professor Black will receive the bust on behalf of the North-Western University as a gift from its London alumni.

THE provincial meeting of the Section of Disease in Children of the Royal Society of Medicine will be held at Nottingham on Saturday, June 22nd.

A SESSIONAL meeting of the Royal Sanitary Institute will be held on Friday, June 21st, in the Festival Hall, at the North-East Coast Exhibition, Newcastle-upon-Tyne, when discussions will take place on the problem of feeding the premature infant, the need for a maternity service, the importance of ante-natal supervision, eliminating the tuberculous cow, hygienic milk supplies, and clean milk in the Northern counties. The chair will be taken at 2.30 p.m. by Dr. Charles Porter. In the evening a public lecture on smoke pollution will be given at 8 o'clock by Professor Leonard Hill, F.R.S., and followed by an open discussion.

AT a meeting of the Optical Society to be held at the Imperial College of Science and Technology, South Kensington, on Thursday, June 13th, from 6.30 to 10 p.m., experiments, demonstrations, and exhibits will be on view, arranged by the Technical Optics Department of the Imperial College.

THE general board of the National Physical Laboratory, Teddington, will hold its afternoon reception this year on Tuesday, June 18th, when visitors will be received by the chairman, Sir Ernest Rutherford, O.M., President of the Royal Society, at 3 o'clock.

A CLINICAL meeting will be held at the East London Hospital for Children, Shadwell, E., on Wednesday next, June 12th, at 4.15 p.m., when a discussion on neurological diagnosis in children will be followed by a demonstration of cases of interest in the wards. Tea will be served at 4 p.m.; all practitioners are cordially invited.

A PUBLIC lecture on some aspects of protoplasmic membrane will be given in the department of anatomy and embryology of University College, Gower Street, W.C.1, by Professor Robert Chambers of the department of biology, Washington Square College, New York, on Monday next, June 10th, at 5 p.m. The chair will be taken by Professor J. P. Hill, F.R.S. The lecture is open without fee to students and others interested in the subject.

THE following lectures in the series for the M.R.C.P. course arranged by the Fellowship of Medicine will be given at the Medical Society, 11, Chandos Street, Cavendish Square, at 8.30 p.m.: Tuesday, June 11th, Dr. Bernard Myers, on the differential diagnosis of splenomegaly, with the treatment of the diseases concerned; Friday, June 14th, Dr. L. S. T. Burrell, on bronchiectasis, abscess of lung, and empyema. A lecture will be delivered at the Queen Mary's Hospital, Stratford, E.15, on June 12th, at 2.30 p.m., by Dr. A. A. Osman, on debility in children and adults. An aural clinical demonstration will be given at the Royal Ear Hospital, Huntley Street, W.C.1, on June 13th, at 2 p.m., by Mr. E. A. Peters. A course in ophthalmology is in progress at the Royal Westminster Ophthalmic Hospital, Broad Street, Holborn; it includes lectures and clinical work every afternoon. At the Chelsea Hospital for Women, Arthur Street, there will be a course in gynaecology from June 10th to 22nd, and a special whole-day course in diseases of the chest will be held at the City of London Hospital for Diseases of the Heart and Lungs from June 10th to 22nd. Three courses will begin on June 24th—namely, one in general medicine and surgery lasting a fortnight at the Prince of Wales's Hospital, Tottenham, and another of the same duration in diseases of children at the Children's Clinic and associated hospitals. The third course, which is in proctology and lasts for one week, will be held at St. Mark's Hospital, City Road. Copies of syllabuses for all courses, the complete list of special courses for 1929, and information on general post-graduate work is obtainable from the secretary of the Fellowship, 1, Wimpole Street, W.1.

THE Medical Research Council has issued a report (No. 132) on the early treatment of syphilis, embodying a survey of records from St. Thomas's Hospital by Colonel L. W. Harrison. Two points of special interest in it are: a reference to the diversity of individual responsiveness to treatment; and the apparent increase in liability to subsequent neuro-syphilis when arsenobenzene compounds are used in the earlier weeks of treatment without mercury or bismuth. Detailed reference will be made to this report in our next issue.

THE Council of Epsom College will shortly award a Sir Walter Buchanan Scholarship, the value of which is about £38 a year. The rule fixed by the founders of the scholarship is as follows: The Sir Walter Buchanan Scholarship is primarily intended for the sons of deceased or prematurely invalided officers of the Indian Medical Service, or, failing any such candidates, for the sons of legally qualified medical men of pure British parentage in necessitous circumstances who have practised medicine for at least five years in India. Forms of application can be obtained from the Secretary, Mr. J. B. Lamb, 49, Bedford Square, W.C.1.

THE nineteenth French congress of legal medicine will be held in Paris from June 24th to 26th under the presidency of Professor Sorel, when the following subjects will be discussed: sudden death, introduced by MM. Heger-Gilbert of Brussels and Laignel-Lavastine of Paris; cruelty to children, introduced by MM. Parisot and Caussade of Nancy; the prenuptial certificate, introduced by MM. Vervaeck of Brussels and Leclercq of Lille; and the responsibility of epileptics, introduced by M. Cellier of Paris. Further information can be obtained from M. Piédelièvre, 24, Rue Gay-Lussac, Paris.

THE International Labour Office has published nine leaflets, Nos. 141 to 149, dealing with calcium and calcium carbide; synthetic camphor; canning and food-preserving industries; cantharides and carbanilide; cements; chlorates and alkaline chlorites; chloroform, chlorpicrine, chromium and chromates; cocaine, cochineal, codeine, colcothar, and colocynthine; and copper boiler-making. They may be obtained from the director of the London office of this organization, 12, Victoria Street, S.W.1.

A NEW quarterly periodical has appeared under the title of *Archives de l'Institut Prophylactique*. The editor, Dr. Arthur Vernes of Paris, contributes to the first number—January to March, 1929—a review of the campaign against syphilis. There is also a joint paper by him and Drs. R. Brico and A. Gager on some experimental work in relation to the serological diagnosis of cancer. The periodical is published by Masson et Cie; the price for countries outside France is 40 fr. for the year.

THE recently published fourth volume of transactions of the Kaiser Leopold Academy at Halle contains papers by twenty-three members from North, Central, and South America, and is dedicated to Professor William Welch of Johns Hopkins University.

MR. ISIDORE D. MORRISON of New York has made a gift of £20,000 and a promise of £2,000 a year for the establishment of an ophthalmic institute at the Hebrew University in Jerusalem.

DR. R. W. MacKenna and Dr. G. C. Mort have been appointed to the Commission of the Peace for the City of Liverpool.

DR. C. H. DURRANT, chief medical officer of the St. Kitts-Nevis Medical Service, has been appointed an official member of the Legislative Council of the Presidency of Saint Christopher and Nevis.

DR. ABRAHAM FLEXNER, director of the Department of Educational Studies of the International Education Board in New York has been elected a doctor *honoris causa* of the Medical Faculty of Berlin.

PROFESSOR ROUSSY and Dr. Lesné have been elected members of the Académie de Médecine.

TESTIMONIAL TO SIR RONALD ROSS.

CONTRIBUTORS TO THE APPEAL FUND.

IN the *British Medical Journal* of May 11th (p. 879) we published a letter from Sir James Barr and others informing our readers that a fund, called the Ross Award Fund, was being started in order to give some recognition to Sir Ronald Ross for his discoveries on the mode by which malaria is carried, and for his lifelong efforts regarding the prevention of that disease. The letter stated that donations should be sent to Lloyds Bank, Ltd., 110, High Street, Putney, S.W.15, cheques to be crossed "Ross Award Fund a/c." The fund was opened with a sum of £344 13s. 6d., subscribed spontaneously by American friends and some personal friends of Sir Ronald Ross in England. The names of these subscribers are printed below, together with a list of donors whose contributions were received up to May 17th. On that date the total amount received was £2,490. The list published below does not include anonymous contributors or contributors whose initials only have been supplied.

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QUERIES AND ANSWERS.

PRODUCTION OF IMMUNITY TO TUBERCULOSIS.

DR. GRIFFITH EVANS (Carnarvon) writes to ask whether the tuberculin recommended by Dr. Nathan Raw (*British Medical Journal*, May 25th, p. 950) is available for general use, and, if so, where it can be obtained.

*** We referred this inquiry to Dr. Nathan Raw, who informs us that the vaccine is prepared and standardized by Messrs. Allen and Hanburys, Vere Street, W.1, from cultures supplied from Dr. Raw's laboratory in the University of London.

INTRACTABLE DIARRHOEA IN A DIABETIC PATIENT.

DR. E. MCPHERSON (Glasgow) writes: "R. M.'s" patient (June 1st p. 1023), in all probability, is suffering from hypochlorhydria, with over-rapid emptying of the stomach, a condition which, by means of gastric analyses, I have found to be present in a large proportion of diabetic patients. Many such cases show marked improvement on the administration of dilute hydrochloric acid; 45 minims or more may be taken in a glass of water with each meal. The fluid, which most diabetic patients learn to enjoy as a refreshing drink, should be sipped slowly during and after the meal. The treatment may be continued for prolonged periods, with or without insulin administration.

DURATION OF LIVER TREATMENT OF PERNICIOUS ANAEMIA.

DR. F. L. RIGBY (Preston) writes: In reply to "W. L." (June 1st, p. 1023), who asks for advice regarding treatment of pernicious anaemia, I may say that, as a sufferer two years ago, when the useful effect of liver was not known, I went into a hospital for transfusion, which was given to me. During my stay there the new treatment became known, and at first a strict liver diet was prescribed, but, as time went on, I found that smaller quantities would suffice, and I am now able to keep a perfectly healthy blood picture by taking about 2 oz. of fried liver with bacon three times a week. While on the strict diet I found the monotony adequately relieved by all kinds of vegetables, sauces, mushrooms, etc., served with the liver. I believe that it is wise to press forward with the ingestion of liver for the sake of its further effects. The nervous troubles (paraesthesia) are, I am sure, gradually relieved by it. I have taken very little "extract," using almost always the actual liver itself, cooked or raw (minced), and served in various ways.

INCOME TAX.

Cessation of Practice: Cash Basis.

"A. B." relinquished his practice last July. His liability up to that date was settled on the cash receipts basis, but he has, of course, subsequently received payment of fees for work done prior to retirement.

*** He is not liable to account for income tax on the fees so received. Income tax is assessable on earnings, whether actually received or not, and his past payments of tax—calculated for convenience on the basis of cash receipts as being over a period of years equivalent to the value of the annual bookings—have covered the whole of his liability. Incidentally his successor will, no doubt, be denied the convenience of the cash basis for his first two or three years—that is, until his annual cash receipts have caught up to the value of his bookings.

Change in Partnership: Cash Basis.

"NOMONE" acquired a share in a partnership as from January 1st, 1928, and inquires as to the method of dealing with his liability.

*** He will have to account for tax on the full amount of his earnings, whether received by him in cash or not, and will not obtain the benefit arising from the operation of that principle until he leaves the practice and then has cash receipts on which he will then already have accounted for income tax.

Depreciation of X-Ray Apparatus.

"RADIO" has been allowed depreciation in respect of his *x*-ray apparatus since 1926, but only at the rate of 5 per cent. Should he have received a larger allowance, and, if so, can he claim for past years?

*** We consider that 10 per cent. at least should be allowed. On a written-down basis it would take twelve years to reduce the value from 100 per cent. to 24 per cent. at that annual rate. "Radio" cannot claim in respect of past years, but should be careful to make a claim for obsolescence if and when he replaces the apparatus, because he will then obtain a larger allowance than he would have done if the higher rate of depreciation had been applied.

Depreciation of Car: Balance Sheet.

"A. E. B." has been advised by his accountant that the depreciation allowance will be given "only where a balance sheet is prepared for the inspector of taxes."

*** We understand that this requirement is usual in the case of manufacturing or trading concerns, but it is not applied to professional profits (the result of personal earnings), and we do not think that the inspector in question is at all likely to require a balance sheet.

Renewal of Car: Improvement.

"W. A. T." bought an F car in 1920 for £404, and sold it in 1928 for £10, when he bought a car of superior grade for £321. He has claimed as an expense £321−£10=£311 (less a deduction in respect of private use), but the inspector of taxes claims to make a further deduction of £80.

*** The £80 presumably is intended to represent that portion of the outlay which went in improving rather than replacing the car equipment. "W. A. T." is entitled as an expense to the amount which would have been incurred in replacing the old car with one of similar grade; anything over that amount is capital expenditure. This may seem harsh, but it arises from the fact that the present price level for cars is below that of 1920, and the converse was the case as regards replacements effected during the high-price period.

Motor Car Transactions.

"R. M. L." has bought two new cars, one at £275 and one at £152, selling for £50 his former car, bought in 1922 for £625. He has throughout been allowed depreciation in respect of this car. What claim should he make?

*** (1) Obsolescence allowance—that is, £625−£425−£152=£48. The £425 is apparently the total amount of depreciation allowance received by "R. M. L." for the financial years 1923-24 to 1929-30 inclusive. (2) Depreciation allowance for 1930-31 on the new cars—that is, £275+£152=£427 at 15 per cent.=£64.

N.B.—"R. M. L." does not state the date to which his professional account is prepared for income tax purposes; we have assumed that the car transaction took place after the closing date of his account for 1928—for example, after March 31st, 1929, if the account is usually prepared to the end of that month.

LETTERS, NOTES, ETC.

POISONING FROM EXHAUST FUMES.

"M.R.C.S." writes: Referring to the note of "M.D., B.S." in the *Journal* of April 20th (p. 752), describing a case of exhaust gas poisoning, it would appear that still another clinical entity will have to be added to the already complicated list of "compensation" disorders. I had a similar case a few weeks ago. The patient was a driver of a motor lorry doing long distances—namely, regular and frequent runs in the road goods service between Newcastle-on-Tyne and London. The story was that there had been complaints to the owners of the lorry with reference to a defective exhaust pipe leaking under the driver's cab. The pipe was not repaired, and on a journey to London the driver had found himself one night, returning from unconsciousness, in a ditch by the wayside. He had apparently been "gassed" to the extent of losing control of his lorry. He was attended to in a local hospital, and returned North in a few days with the same lorry. On reaching Newcastle-on-Tyne he was ill and half collapsed, and obliged to go sick. The outstanding feature of his illness was an acute hyperemesis of three days' duration. He was incapacitated for no less than six weeks, a fact which caused great trouble on account of compensation claims. Employers are naturally reluctant to ask the companies with which they have their men insured under the Compensation Acts to pay compensation money in cases which appear on the surface ordinary national health insurance cases. If these cases of "exhaust gas poisoning of motor drivers" become more frequent, it will be necessary to decide whether they should be dealt with under the provisions of the National Health Insurance Acts or under the Workmen's Compensation Acts. Of similar significance is the stomach trouble found in some of the coalfields among the miners who use large quantities of explosives to loosen the coal and facilitate its removal and separation from stone. To this "powder reek gastritis" is now added in some mines, where intensive coal-cutting by machines is in vogue, a severe irritation of the mucous membranes of the throat and lungs by the inhalation of mixed coal and stone dust.

ASPIRIN, PHENACETIN, AND DOVER'S POWDER.

DR. J. I. KUIT (Piet Retief, Transvaal) writes: In your issue of March 30th (p. 628), Dr. Tressie Pires, when writing about aspirin, phenacetin, and ipecacuanha powder for influenza, asks what is an effectual dose in children. I have used this powder for about five years now, ever since I first saw the prescription in your columns. The effect in all forms of fever is good and in some cases almost magical. As a matter of fact, locally the people go to the chemist of their own accord to ask for "'flu powders." The claim that was made for it originally, that it would cut short an incipient lobar pneumonia, I can fully endorse. The prescription was aspirin 5 grains, phenacetin 5 grains, pulv. ipecac. co. 5 grains. For children I give 2 to 5 grains, according to age—that is, from 2 years upwards.

TREATMENT OF ASTHMA.

DR. ROLF CREASY (London, W.) writes: Among the treatments proposed for asthma I have not seen any reference to static electricity. I would venture to suggest that great benefit is often derived from this method, which, within the last year or two, has been considerably enhanced by the combined use of infra-red rays. The aim of this treatment is restoration of a healthy condition of the respiratory tract.

MAP OF ROMAN BRITAIN.

DR. J. P. WILLIAMS-FREEMAN'S article in the *Journal* of May 18th (p. 922) on the new edition of the Ordnance Survey "Map of Roman Britain" has brought us inquiries from several readers. We understand that copies of this map can be obtained from H.M. Ordnance Office, Southampton, or through any of the leading booksellers in large towns.

A WARNING.

WE are informed by the superintendent of the Kent County Constabulary that the person described in the paragraph which appeared under the above heading in last week's issue (p. 1024) has been arrested, and on May 31st was remanded in custody for one week.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 73, 74, 75, 78, 79, 80, and 81 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 76 and 77.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 227.

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COAGULEN-CIBA IN HÆMORRHAGE

Five correspondents in *The British Medical Journal*, July 28th, 1928, p. 182, testify to the value of Coagulen-Ciba in Hæmophilia.

Reports on the successful administration of Coagulen-Ciba were published in *The Lancet*, October 31st, 1925, p. 918, Intestinal Hæmorrhage; *The Lancet*, June 13th, 1925, p. 1238, Hæmoptysis treated by Intrapulmonary Injections; *The Lancet*, January 24th, 1925, p. 176, Hæmorrhage following Tonsillectomy.

Three cases (two Hæmoptysis, one Bowel Hæmorrhage) successfully treated with Coagulen-Ciba by the mouth are reported in the *Journal of the Royal Naval Medical Service*, No. 1, Vol. XII, pp. 64-65.

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